410

Overall Length	43' - 0"
Overall Length w/Ext. Platform	46' – 2 3/4"
Length at Waterline	35 ' - 2 3/4 "
Length Fairbody	40' – 1 1/2"
Beam	14' - 2 7/8"
Beam – Waterline	12' – 8 1/4"
Draft(Maximum)	3' – 10"
Displacement(dry)	30,500 lbs.
Displacement(full fluids)	35,000 lbs.
Transom Deadrise	12 degrees

Power Options	Crusader 8.2 & Merc 8.2L Cummings 330B, 370B & 450C Caterpillar 3126 (350 ..385, 420 Horsepower)
Fuel Capacity	449 Gal.
Fresh Water Capacity	200 Gal.
Waste Water Capacity	40 Gal.
Water Heater Capacity	10.5 Gal.
Average Headroom	6' - 6"
Maximum recommended Number of persons	14
Maximum recommended Load	2,692 lbs.

Thank You!

FROM

The Silverton Team

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INTRODUCTION

Thank You!
From the President

Dear Silverton Owner,

Congratulations and welcome to the Silverton Family! As a Silverton owner, you will enjoy the quality and the attention to detail for which our Silverton yachts are renowned. Silverton and your dealer are committed to your service and total satisfaction.

This Owner's Manual will acquaint you with the proper operation and maintenance of your new Silverton yacht, as well as boating safety, which is our primary concern, whether docked or at sea.

Please mail in all manufacturers' registration and warranty cards to ensure that your Silverton and Original Equipment Manufacturer (O.E.M.) warranties are valid. The individual warranty cards are contained in the owner's packet along with all of the O.E.M. manuals. Please remember that all information contained in the O.E.M. manuals supersedes the information contained in this Owner's Manual.

Finally, if you are new to boating, be certain to learn the proper rules of seamanship to ensure your safety and the safety of your passengers. Refer to Chapman's Piloting, Seamanship and Small Boat Handling Manual for important and useful information concerning this aspect of boating. Attend a safe boating course offered by the United States Coast Guard Auxiliary, United States Power Squadron or any enterprise experienced in conducting safe boating courses.

Thank you for choosing a Silverton. I am confident your new yacht will provide you and your family with years of enjoyable cruising.

Richard Cerami, President
Silverton Marine Division

THE SILVERTON STORY

SILVERTON YACHT OWNERS AND FOUNDERS

WARREN LUHRS & JOHN LUHRS

Hailing from East Orange, New Jersey, John and Warren Luhrs' ancestry goes back to their great-grandfather, Henry, who helped pioneer the development of railroading and clipper ships in America, and to their great-uncle, John, who helped build the famous St. Petersburg-to-Moscow railroad for Russian Czar Alexander II.

Henry Luhrs owned shares in twenty-two different ocean-going vessels - barques, brigs and schooners - and was the principal owner of the barque, Sophia R. Luhrs, named after his wife. He was also a partner with Albert Sprout, who managed a shipyard in Melbridge, Maine, where the Sophia R. Luhrs was built.

The Luhrs' family sea tradition was carried on during the great Depression by John and Warren Luhrs' father, Henry, who worked at a small boat manufacturer in Morgan, New Jersey and later started his own company. When war broke out in Europe, the United States Coast Guard asked Henry Luhrs to repair their boats and install ice sheathing on their bows.

After World War II, Henry built 27-foot fishing boats and in 1948, he began to construct custom-built pleasure craft. He then turned to skiffs and in 1952, incorporated as "Henry Luhrs Sea Skiffs". He constructed lap strake sea skiffs using assembly-line techniques. Henry personally "shook down" his prototypes with family trips up the Hudson River to Lake Champlain.

Henry Luhrs' basic philosophy was to emulate the late Henry Ford in building an inexpensive boat for the average man, thus enabling him to enjoy the luxury of boating. He was both designer and engineer, creating innovative and progressive new models. He designed the change in the line of the bow from straight to curved at a time when all boats were being built with the straight, square effect. It is believed he was also the first designer-builder to popularize a small boat with a flybridge.

In 1960, Henry Luhrs acquired the Ulrichsen Boat Company, located in Marlboro, New Jersey. It was here, too, that the Luhrs Alura Fiberglass Division was located. In 1965, Henry sold his company to Bangor Arrostook Railroad, which was to become the recreational conglomerate, Bangor-Punta. It was also during this period that the Silverton Company, Toms River, New Jersey was purchased by his sons, John and Warren Luhrs.

Today John and Warren, own Silverton Marine Corporation, Hunter Marine Corporation, Mainship Motor Yachts Corporation and Luhrs Fishing Boats Corporation, known as the "Luhrs Marine Group."

In January, 1996, John and Warren transferred a portion of the Luhrs Marine Group to its employees through an Employee Stock Ownership Program, ensuring a personal interest in the construction of your Silverton yacht.

INTRODUCTION TO YOUR 410 SPORT BRIDGE

OWNERS MANUAL

We appreciate your selection of the Silverton **410 SPORT BRIDGE.** We have designed and manufactured this yacht to bring you a strong, safe and attractive yacht that will provide you with many years of pleasure and pride in ownership.

All Silverton yachts are built in compliance with applicable United States Coast Guard regulations and recommendations. In addition, our yachts meet or exceed all standards developed by the National Marine Manufacturer's Association for its "Yacht Certification Program".

This Owner's Manual includes general information concerning the operation, handling and maintenance of your **410 SB.** In addition, the various systems and standard and optional factory installed equipment are described. **Please note that the information contained in this Owner's Manual summarizes the detailed information contained in the Original Equipment Manufacturer's (O.E.M.) manuals contained in the Owner's Packet and is only intended to be a convenient reference for your daily use.** Refer to the appropriate O.E.M. manual for detailed information concerning the operation and maintenance of its respective piece of equipment.

Maintain your Owner's Manual and the Owner's Packet together in a safe, convenient location that is easily accessible for readily available reference.

General information designed to assist you in understanding the contents of your Owner's Manual is as follows:

HAZARD COMMUNICATION

This Owner's Manual contains certain signal graphics designed to call your attention to important and specific information. These graphics are shown as follows:

DANGER calls attention to immediate hazards that **WILL** result in severe personal injury or death.

WARNING identifies hazards or unsafe practices that **COULD** result in severe personal injury or death.

CAUTION indicates hazards or unsafe practices that **COULD** result in minor personal injury or product or property damage.

OWNER ADVISORY STATEMENTS

This Owner's Manual contains certain advisory statements designed to alert you to conditions affecting equipment operation and maintenance practices and they are as follows:

Important: This is an advisory statement or procedure intended to prevent damage to equipment or its associated components.

Note: This is a general advisory statement relating to equipment and maintenance procedures intended to call your attention to important information that is not contained within the normal text describing the specific issue.

SUMMARY OF OWNER'S MANUAL CONTENTS

Brief summaries of each section of this Owner's Manual are as follows:

Introduction

This section includes general information about your **410 SB**, warranty information, your responsibilities as the owner and/or operator, laws and regulations, logs and records.

Getting Familiar With Your 410 SPORT BRIDGE

This section is like a tour, showing you the various accessories and appliances, both standard and optional, that are found on your **410 SB**. In addition, the Hull, Deck, Interior and Engine Compartment will be described.

Boating Safety

This section discusses potential hazards associated with boating, safety recommendations, safety information and safety practices. It also discusses safety equipment necessary to provide a reasonably safe operating environment.

Note: For your safety, this Owner's Manual has specific safety warnings and comments where appropriate. Be certain to read and have an understanding of the entire manual.

Systems Operation

This section explains the various systems found on your **410 SB** and their operation and maintenance procedures.

Operation of Your 410 SPORT BRIDGE

This section explains what procedures you should follow before, during and after your boating excursion to make it an enjoyable and safe experience.

Maintenance of Your 410 SPORT BRIDGE

Preventive maintenance is the key to trouble-free operation and helps to protect your investment. This section explains what you should do to maintain your **410 SB** and how to make basic adjustments and repairs. A Maintenance Chart summarizes maintenance tasks by frequency. Included are procedures for winterizing and storing your yacht.

Glossary of Terms

The Glossary defines common nautical terms and terms associated with your **410 SB**.

Systems Schematics

This section displays schematic drawings, such as the Mechanical Layout, Electrical Schematic and Fresh Water Schematic that may be useful to you in understanding the general layout of the systems described.

Supplements

This section is for any updates to this Owner's Manual that are issued from Silverton at a date after this manual is published.

ORIGINAL EQUIPMENT MANUFACTURER'S MANUALS

Silverton purchased various items of equipment from other manufacturers and installed them on your yacht while it was being built. Examples of this equipment include, but are not limited to, the engines, generator(if so equipped) and appliances. The Original Equipment Manufacturers (O.E.M.) have provided operation and maintenance manuals describing their specific piece of equipment. **Although this Owner's Manual summarizes the information contained in the O.E.M. manuals, it does not replace them. In the event of a conflict between the information contained in this manual and the information contained in the O.E.M. manual, the O.E.M. manual takes precedence.** Maintain all O.E.M. manuals with this Owner's Manual in a safe, convenient location and be certain to pass them on to the new owner in the event you sell or trade your yacht.

WARRANTY INFORMATION

Silverton Yacht Dealers

Your Silverton yacht dealer is a trained professional with facilities and resources available to serve you to your complete satisfaction. Your dealer can assist you in all phases of yacht service and you should bring to his attention any problems you may not be able to correct. All warranty claims and subsequent service must be approved through your Silverton dealer. The Silverton warranty is reproduced in its entirety at the end of this section.

Pre-Delivery Service Record

Your Silverton yacht was thoroughly inspected before it was shipped from the factory. Your dealer also inspected it during the pre-delivery service inspection. Please take time to discuss these inspections, the Silverton warranty, component warranties and operation of your yacht with your dealer.

Your Silverton dealer completes a Pre-Delivery Service Record before you take delivery of your yacht. It is the dealer's responsibility to both you and to Silverton to give your yacht a final inspection. The purpose of this inspection is to assure the proper adjustment and operation of all components installed on your yacht. Your dealer should provide you with the Pre-Delivery Service Record at the time of delivery. After you and your dealer have signed the form, the original copy, along with your warranty card, is forwarded to Silverton.

Silverton will not pay warranty costs for items that should have been corrected during the pre-delivery service inspection and recorded on the Pre-Delivery Service Record.

Warranty Registration

All Silverton yachts are shipped to the dealer with a warranty registration form for the yacht. The warranty card should be completed and returned to Silverton, together with signed copies of the Pre-Delivery Service Record, within ten(10) days of delivery. **Failure to do so may void the warranty.**

Warranty Conditions

To avoid any misunderstanding of Silverton's warranty policy, we suggest that you discuss the following with your Silverton yacht dealer:

✖ All customer warranty claims and subsequent repairs must be approved through your Silverton dealer.

✖ Your yacht must be returned to your selling dealer for warranty repairs unless other arrangements between the dealer and the customer have been made before delivery. Silverton will not pay travel time or mileage for warranty claims.

✖ Silverton allows a set hourly rate for labor. If you use any service facility other than a Silverton dealer for warranty repairs, either the owner or the dealer must absorb any difference between what Silverton allows and what the "service contractor" may charge.

✖ Silverton will not assume any responsibility or liability for parts replaced or labor completed by anyone other than an authorized Silverton dealer without prior authorization from Silverton.

✖ Silverton will not warrant items that should have been covered during the predelivery service inspection.

✖ Silverton will not be responsible for any problems or inconveniences that may be caused as a result of a defect.

✖ Silverton will not be responsible for any losses caused as a result of a defect for any reason.

Second Owner's Warranty

Some Silverton yacht owners trade up to a newer or larger yacht before the warranty on their current yacht has expired. Silverton will transfer the remaining warranty on your new yacht to its new owner. Conditions of the warranty transfer are stated in their entirety at the end of this section.

Owner's Responsibilities

Silverton service and support does not end after you purchase your yacht. Our dealers are committed to your total satisfaction with your yacht. They cannot accomplish this objective without your assistance. You are responsible for:

✖ Obtaining state registration or federal documentation.

✖ Providing and maintaining all safety equipment required by the United States Coast Guard.

✖ Completing and forwarding all Original Equipment Manufacturer's warranty registrations.

✖ Performing and completing required OEM maintenance.

LIMITED WARRANTY

According to the U.S. Public Law No. 93-637, effective July 4, 1975, the following limited warranties apply to all 2002 Model Year boats produced by SILVERTON MARINE CORPORATION.

LIMITED ONE YEAR WARRANTY

SILVERTON MARINE CORPORATION warrants to the first-use purchaser and any subsequent owner during the warranty period that any part manufactured by SILVERTON will be free of defects caused by faulty workmanship or materials for a period of twelve(12) months from the date of delivery to the first-use purchaser under normal use and service. During this period, SILVERTON will repair or replace any part judged to be defective by SILVERTON.

LIMITED FIVE YEAR WARRANTY ON HULL STRUCTURE

SILVERTON warrants to the first-use purchaser and any subsequent owner during the warranty period that the hull of each boat will be free from structural defects in materials and workmanship for a period of five(5) years from the date of delivery to the first-use purchaser under normal use and service. This limited warranty applies only to the structural integrity of the hull and the supporting pan/grid or stringer system. Hulls, pan/grids or stringers modified in any way or powered with engines other than the type and size installed or specified by SILVERTON are not covered by this limited warranty. The obligation of SILVERTON under this limited warranty is limited to the repair or replacement of hulls that it determines to be structurally defective. This is your sole and exclusive remedy.

SILVERTON also warrants to the first-use purchaser and any subsequent owner during the warranty period that the boat will be free from gel-coat blistering on underwater surfaces of the hull, for a period of five(5) years from the date of delivery to the first-use purchaser under normal use and service, based upon the following prorated schedule.

-Less than two(2) years from date of delivery - 100%
-Two(2) to Three(3) years from Date of Delivery - 75%
-Three(3) to Four(4) years ftom the Date of Delivery - 50%
-Four(4) to Five(5) years from date of Delivery - 25%

During this period, SILVERTON will supply or reimburse an Authorized Silverton Dealer for all the parts and labor required to repair a blistered underwater surface of the hull. The labor cost reimbursement will be based on the Labor Allowance Schedule established by SILVERTON from time to time, however if the repair is performed by a non-Silverton dealer, the repair cost must be authorized by SILVERTON in advance and be based on a reasonable number of hours as determined by SILVERTON. **Silverton will not pay transportation, hauling, launching, bottom paint, storage, dockage, cradling rental, rigging and de-rigging, or other similiar costs. It is recommended that the repair be done during a seasonal haul out for service or storage.**

The following circumstances will void the blister-limited warranty:
(1) If the gel-coat has been sanded, sand-blasted, or subjected to abrasion or impact.
(2) If the instructions provided in the Silverton Owner's Manual are not followed according to Silverton's required bottom preparation procedures.

RESTRICTIONS APPLICABLE TO WARRANTIES

These limited warranties **do not cover:**

1. Bottom paint, paint, window glass, gelcoat, upholstery damage, plastic finishes, engines, engine parts, bilge pumps, stoves, blowers, pressure water pumps, propellers, shafts, rudders, controls, instruments and equipment not manufactured by SILVERTON. Any warranty made by the manufacturer of such items will be, if possible, given to the first-use purchaser.
2. Problems caused by improper maintenance, storage, cradling or blocking, normal wear and tear, misuse, neglect, accident, corrosion, electrolysis or improper operation.
3. Speeds, fuel consumption and other performance characteristics because they are estimated and not guaranteed.
4. Boats used for commercial activities, including charter.
5. Damage caused by misuse, misalignment of shafts and engines, or lack of maintenance.

These limited warranties are your sole and exclusive remedies and are expressly in lieu of any and all other remedies and waranties expressed and implied, including the warranties of merchantability and fitness. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. The purchaser acknowledges that no other representations were made to him or her with respect to the quality and functions of the boat. Any consequential or incidental damages which may be incurred are excluded and purchser's remedy is limited to repair or replacement of part(s) judged defective by Silverton. Some states do not allow the exclusion or limitation of incidental damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

WARRANTY REGISTRATION

These limited warranties shall not be effective unless the SILVERTON Warranty Registration Form and Pre-Delivery Service Record, which are furnished with each new boat, are filled out completely and returned to SILVERTON within ten(10) days of delivery.

The return to SILVERTON of the fully signed Warranty Registration Form is critical. Warranty coverage cannot be initiated until the completed form is received at SILVERTON.

All repairs and/or replacements will be made by an authorized SILVERTON dealer, or at the option of SILVERTON, at the SILVERTON plant. If the repairs are of such a nature that the warranty work must be performed at the SILVERTON plant, transportation costs to and from the

SILVERTON plant shall be paid by the owner. The labor cost reimbursement will be based on the Labor Allowance Schedule established by SILVERTON and where not applicable, on a reasonable number of hours as determined by SILVERTON. Any repairs and replacements must be approved in advance by an authorized SILVERTON Service Representative.

TRANSFER OF LIMITED WARRANTIES

Effective with 2001 model year boats, these limited warranties will be transferred to a subsequent purchaser of the boat if:

1. A notice of the transfer of ownership of the boat is given by the subsequent purchaser in writing to SILVERTON within thirty(30) days of the transfer.
2. The notice shall include the name, address and telephone number of the subsequent purchaser, the date of purchase, the hull number and the name of the seller of the boat.
3. A non-refundable recording fee of $250.00.
4. An inspection report by an accredited marine surveyor.

SILVERTON will mail to the subsequent purchaser notice of the expiration dates of the limited warranties. The transfer of the ownership of the boat will not extend the expiration dates of the limited warranties.

BOOKS AND PUBLICATIONS

Silverton recommends you purchase and read the following publications:

Piloting, Seamanship and Small Boat Handling
By Chapman
(included with this manual compliments of Silverton Marine Corporation.)

Boatman's Handbook
By Tom Bottomly

Motorboat and Sailing
P.O. Box 2319, FDR Station
New York, New York 10002

The Complete Book of Maintenance and Repair
By Dave Kendall

Doubleday and Company
Garden City, New York 11530

Pleasure Boating and Seamanship
United States Coast Guard Axillary

306 Wilson Road Oaklands
Newark, Delaware 19711

RECORD KEEPING

Boat Record

Use the **Boat Record**(included at the end of the Glossary Section of this manual) to record all important information concerning your yacht and its equipment. After your dealer has recorded all the information, remove the record from your Owner's Manual and store in a safe, convenient location. **Do not** keep this form aboard your yacht.

Float Plan

The **Float Plan** (included at the end of the Glossary Section of this manual) provides a record of your destination, departure and return times, yacht description, passenger list and other information about the trip you have planned. At the bottom of the form is a space for listing emergency telephone numbers in case your return is delayed past the expected time. It also has space for indicating information about the person filing this report. Leave a copy of the completed form ashore with a responsible person. Carry the original form with you on your cruise and if you deviate from your original plan, be certain to notify the person with whom you left the copy of your change in plans. Silverton recommends you make several copies of this form each yachting season to ensure you have an adequate supply.

Maintenance Log

The **Maintenance Log**(included at the end of the Glossary Section of this manual) provides the means to keep maintenance records in one location. Using this log will allow you to track maintenance work completed. Your Silverton dealer will also find this information helpful if you decide to sell or trade your yacht. The maintenance record will make your yacht a more desirable purchase because it tells prospective buyers that you have maintained the proper care of the vessel on a regular basis.

ACCIDENT REPORTING

No one likes to think about having a boating accident, but unfortunately, they do occur. You must file an accident report after a boating accident just as you would after an automobile accident. A copy of the United States Coast Guard Accident Report is included with this Owner's Manual.

You can obtain more copies of the report by calling the United States Coast Guard Boating Safety Hotline at 1-800-368-5647. You are required to file an accident report with the United States Coast Guard within forty-eight (48) hours after the occurrence of an accident resulting in any one of the following:

✷ Loss of life.

✷ A person disappears from a vessel under circumstances that indicate the possibility of death or injury.

✷ Personal injury requiring medical treatment beyond first aid.

✷ Damage to the vessel or damage to property.*

✷ Complete loss of the vessel.

* State statutes determine whether you must file an accident report in this case. An accident report must be filed if the damage exceeds a threshold dollar value as established by the state in which the accident occurred. In most states, the threshold is $100.00 to $200.00. Contact the United States Coast Guard Boating Safety Hotline to verify the threshold for a particular state.

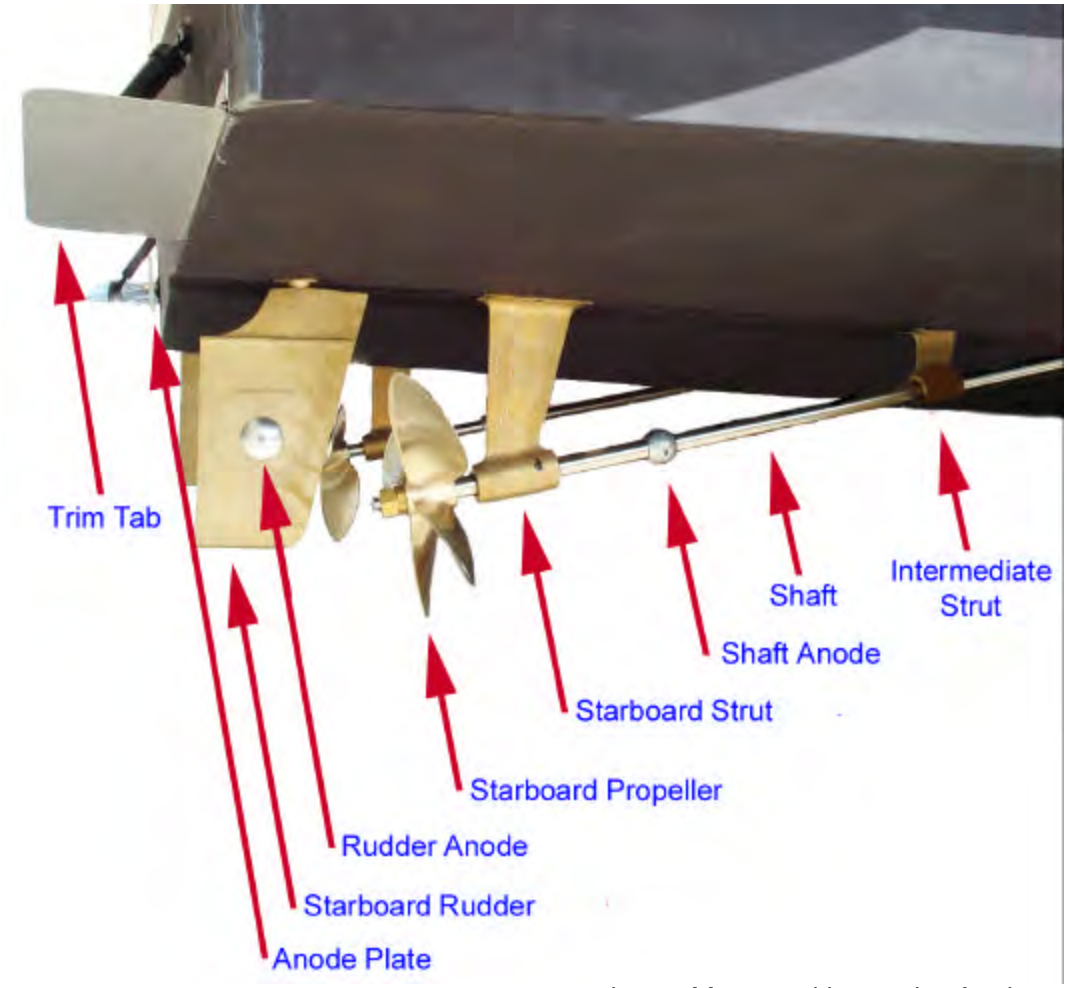
Note: State and local agencies may also have accident reporting requirements. Check with local enforcement agencies or with your local Silverton dealer regarding local requirements.

Getting Familiar with your

410 SPORT BRIDGE

This section of your Owner's Manual will give you a virtual tour of your new **410 Sport Bridge**. The following areas will be described: Hull, Deck, Interior and Engine Compartment.

HULL



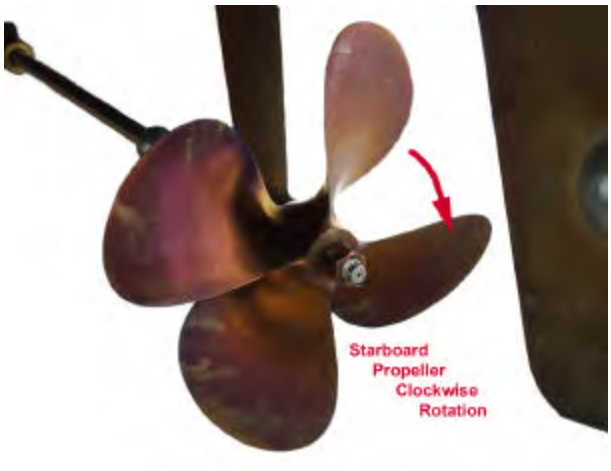
The **Shaft** is connected to the engine transmission with a coupling and extends through the bottom of the hull, where it is connected to the propeller.
The shaft is supported forward of the propeller by two **Struts**. The struts support and stabilize the shafts.
The rotation of the **Propellers** propels the yacht in the selected direction, controlled from the helm station.

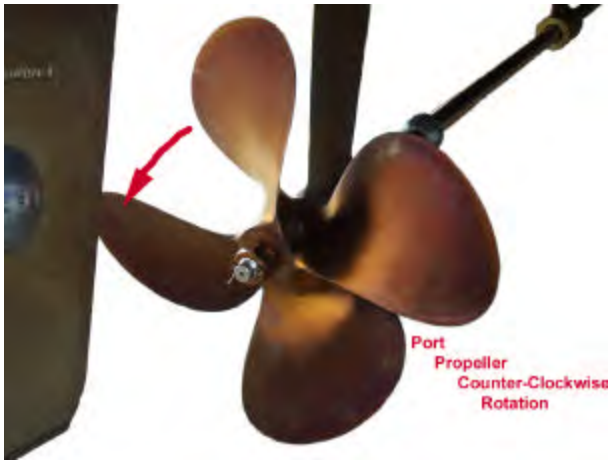
The **Rudders** provide steering for the yacht to Port or Starboard, depending on the direction they are turned by the operator from the helm station steering wheel.

The **Zinc Anodes** are factory installed on the shafts, rudders and transom for the purpose of preventing electrolysis and galvanic corrosion, which is discussed in the **Winterization and Storage Section** of this Owner's Manual.

Propellers

The Propellers are located underneath the aft portion of the hull. They are attatched to the motor by the shafts. The propellers on your 410 Sport Bridge are specific to your boat. Make sure you record the information and specifications of the propellers just in case they need to be replaced in the future. The photographs below display the propeller rotation for the port and starboard sides.





The propellers do not have the same rotation for a reason. The boat would always have a tendency to go in one direction if they were not different.

Trim Tabs

The photograph below displays the port and starboard **Trim Tabs**, which are factory installed on the lower edge of the transom. Trim tabs are rectangular control flaps that project parallel to the water's surface at the transom when the hull is planing. Adjusting the tabs down changes the boat's trim by pushing the stern up and the bow down.

Transom Anode Plate

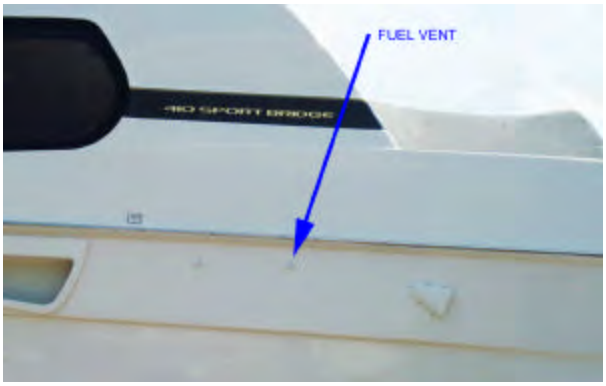
The photograph below displays the **Transom Anode Plate**, which is a sacrificial zinc anode that is bolted to the transom and connected to the electrical bonding system. Its purpose is to prevent electrolysis and galvanic corrosion of the underwater components in your yacht, which is discussed in the Bonding system pages of the System Operations section of this manual.

Engine Exhaust Ports

There are two **Engine Exhaust Ports**, one for each engine. The Portside Engine Exhaust Port is located on the port side of the hull on the transom. The Starboardside Engine Exhaust Port is located on the starboard side of the hull on the transom. The photograph below displays the Portside Engine Exhaust Port. The Starboardside Engine Exhaust Port is in the identical location on the Starboard side of the yacht.

Fuel Tank Vents

The photograph below displays the **Fuel Tank Vent** as shown on the Port side of the hull.



Note: Please refer to the Thru-Hull Location Schematics in the Schematics Section of this Owners Manual for the location of the **Fuel Tank Vent** in proportion to the entire hull.

Generator Exhaust Port

The photograph below displays the **Generator Exhaust Port**. It is located below the swim platform, on the starboard side of the hull.

Engine Seawater Pickup

The photograph below displays the **Engine Seawater Pickup** as shown on the port side. The Engine Seawater Pickups are located on the bottom exterior of the hull forward of the engines and are used for “scooping” water for the engine cooling system.

Discharge Ports

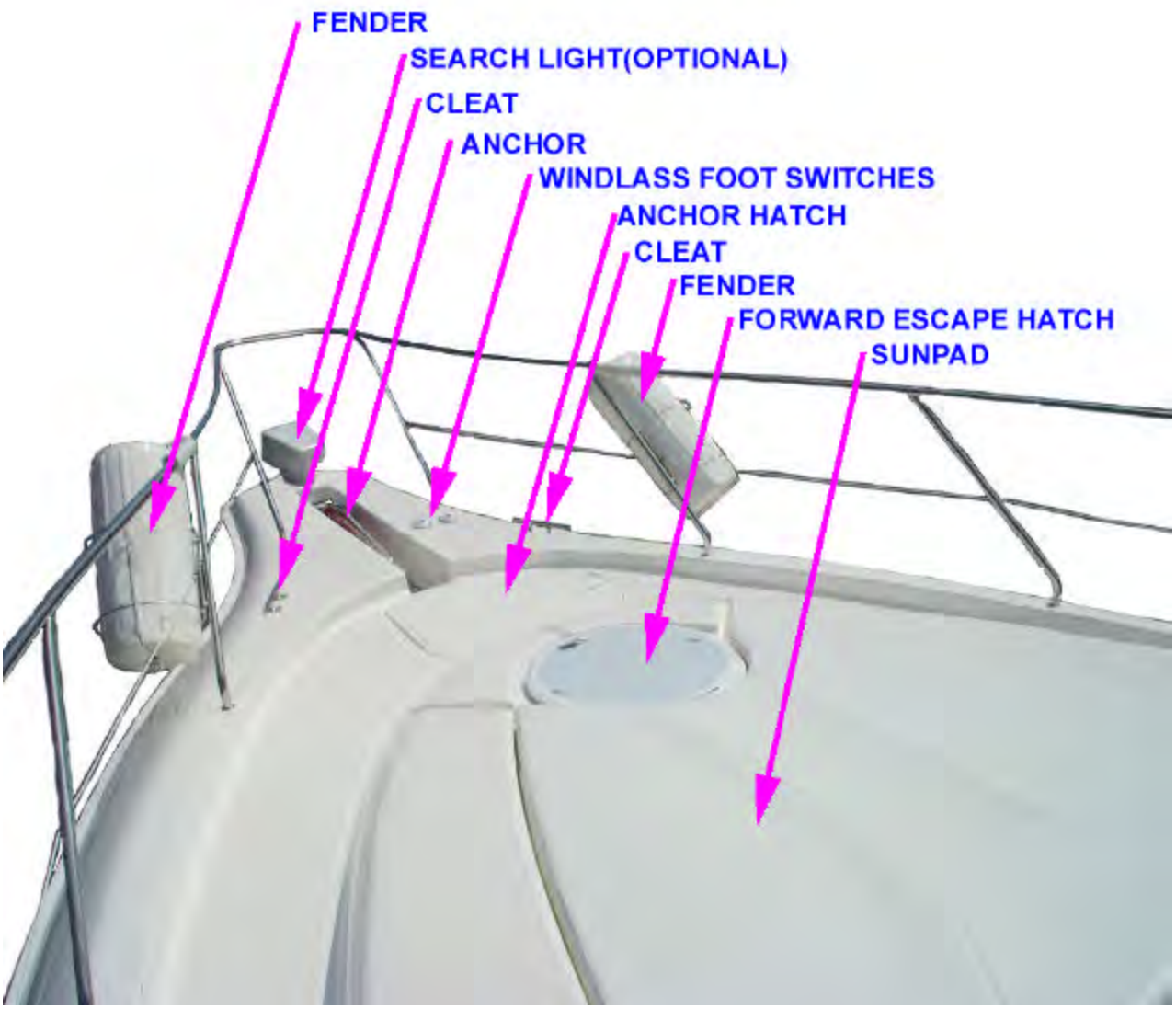
The various **Discharge Ports** (also known as through-hull ports) are located on both sides of the hull. Refer to the Thru-Hull Schematic drawings in the Schematics Section of this Owners Manual, which illustrates the location of these ports.

Engine Room Vents(Intake and Exhaust)

Your **410 SB** has ventilation vents from the Engine Room. The amount of venting and the location depends upon the engine configuration of your **410 SB**. There are large vents located on both sides of the hull. The photo below shows the Starboard Engine Room Vent. This is an always open vent that has no fan attatched to it.

The **Bilge Ventilation System** pages in the Systems Operation Section of this Owners Manual discusses the ventilation system. Be certain to read and have a thorough understanding of this section. It contains important information concerning the **SAFE** operation of your yacht. The photograph below displays the engine room blower vent on the star-board side of your boat. There is also a vent on the port side.

DECK



Anchor System

The photograph below displays the location of the Anchor, which is located in its bracket under the pulpit.

The photograph below displays the optional Anchor Windlass and controls, which are located on the forward section of the deck immediately aft of the pulpit.

WARNING

Be certain to keep hands and feet away from any moving parts while operating the Anchor System. Becoming entangled in the anchor line may result in serious injury or death.

Search Light

The **410 SB** may be equipped with an optional **Search Light**, which is mounted on the forward portion of the pulpit. The photograph below displays the Search Light.

The Search Light direction and power controls are located at the helm station. The photograph below displays the Search Light controls on the helm station.

The actual Control switch for the Search Light is an omnipositional switch. It also controls the kind of light that comes out of your search light. It can be either spot(S) or flood(F).

Deck Drains

Deck Drains are located on the aft outboard cockpit on both sides of your 410 SB. The photograph below displays the **Deck Drain**, located on the Port side.

BRIDGE

HELM

The helm, located on the Bridge of your 410 SB, is where your yacht is piloted.

PORT SIDE BRIDGE LOUNGE & HELM SEAT

Located on the port side of the bridge is the Port Side Bridge Lounge. Under both seats is storage.

AFT BRIDGE LOUNGE

Located on the aft portion of the bridge is the Aft Bridge Lounge. You can find more storage under this lounge. You also have a flip-down center console.

BRIDGE WET BAR

Located on the port side of the Aft Bridge Lounge is the Bridge Wet Bar. The photo below shows the optional Icemaker installed.

Air Horns

The factory installed **Air Horns** are mounted on the forward section of the bridge.

Navigation Lights

The photographs below display the location of the **Port, Starboard, and Stern Navigation Lights.**

The Port Navigation Light is RED.

The Starboard Navigation Light is GREEN.

The Stern Light is WHITE.

The photo below shows the location of the switch for the Navigation Lights at the helm.

The switch is a three-position switch. When the switch is level the navigation lights are off. When the bottom portion of the switch is depressed the Anchor lights come on. When the top portion of the switch is depressed the navigation lights come on.
Also shown in the photo above is the breaker switch. When the breaker is activated, this is where you would reset the navigation lights. If the breaker keeps activating you should consult with a trained technician to fix the problem.
It is very important that you know when to have which lights activated. Please refer to your "Chapman's" book for all the rules for your lights.

The photo below shows the Navigation/Stern Light. This light is white.

ACCESS STEPS

The photo below displays the access steps going from the cockpit up to the bridge.

The photo below shows the portside Silverton Sidewalk which goes from the bridge to the forward part of the deck. These steps are located on both sides of the bridge.

INTERIOR

This section will show you the various interior compartments of your **410 SB**, starting with your entry into the Salon.

Salon Access Door

The photograph below displays the **Salon Access Door**, located on the Port side of the cockpit. This door permits access to the main cabin of the yacht.

Before entering the Salon on the bulkhead portside is a switch panel. This switch controls the exterior courtesy lights and the interior overhead lights. The doors are lockable, and you should receive two keys with your boat.

SALON

The photo below shows the Salon area of your 410 SB.

As soon as you enter the doors there is a set of drapes covering the doors and a sliding screen. Once you are in the Salon on the port side is a switch. This switch is for the interior courtesy lights and the overhead lights. Above that switch is the A/C vent. Behind the recliner is an access panel. This panel gives access in case of needed service. The Wet Bar Drain and hoses are behind this access panel also.
Forward of the recliner is an end table. Under the end table is storage. Just forward of the end table is a electrical outlet. Forward of that is the A/C Control Unit. Above the bar stools you will find an electrical outlet and telephone outlet. This is an excellent place to locate your laptop computer. Under the shelf at the foot of the bar stools is an opening at the bottom of the bulkhead. It is the intake for the A/C unit. Do not block this. While we're down there to the right of the opening is where you will find the Central vac inlet! This was an option available on your boat.
Now still standing just inside the Access doors on the starboard side we have three access panels(behind the lounge). The panel on the aft wall is where you will find your subwoofer if you purchased that option. The other two acess panels are for general service work.
The entertainment center is amidship in the Salon(forward). Standard for the boat is a CD Changer and receiver. As an option the 20" Television and VCR unit also fits in this space.
If you purchased surround sound the speakers(4) are located all in the salon on the upper bulkheads.
On the deck we have the access to the engine room.

GALLEY

Two steps up from the Salon is the Galley. If you are standing in the Salon looking forward, you would see(going clock-wise) the Refrigerator/ Freezer unit. Behind this unit is the A/C Unit. Next we have the counter. On the refrigerator wall we have a courtesy switch. The switches controls the lights and the exhaust fan. On the counter itself we have the Range Top. Take notice of the Retention Rail behind the range Top. This is an excellent place to keep those spices and Salt and Pepper Shakers. On the outside bulkhead is the A/C Vent. Next we have another electrical outlet. Forward of the outlet we have a storage unit with a door, then the Microwave, and the Coffeemaker. On the end of the counter we have the sink with its

insert.
Under the counter we have(going clockwise again) a large storage cabinet. Next is a four drawer unit. Then under the sink we have a two door sorage area.
On the starboard side we have the dinette with the seating and the table.
Don't miss the two drawers under the floor of the dinette. If you look up above the table you will see two adjustable map lights.
All the way forward we have a storage bin with a lid. To close the lid just pull gently on the center of the spring! There is another electric outlet all the way over on the starboard side.

Midships Passageway

The Midships Passageway runs from the Salon to the Forward Stateroom. To get to the Passageway you must step down four lighted steps. The lights are controlled by the switch in the Salon. Before going down the steps look to the starboard side . You will see three outlets. One outlet is standard 120 volt, one is for a telephone, and one is a 12 volt outlet. The 12 Volt outlet is good for plugging in your cell phone from your car. Also while facing forward, under the shelf at your right hip is the light switch for the passageway.
On the starboard side is three doors. The one closest to you(aftmost) is where the AC/DC panel is.

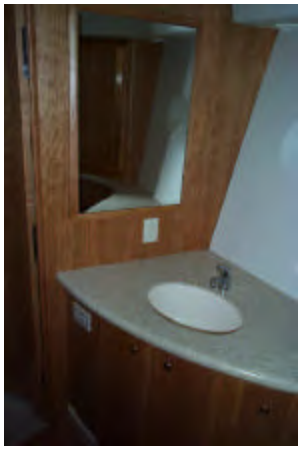
The larger door forward of that is where the Battery Switches are located.

Above that door is the smallest door. Inside these doors is the Water and Waste Meters.
At the end of the passageway on the starboardside is the entry into the Head. On the portside you have the doorway into the Mid Stateroom.
At the very end of the passageway is the doorway into the Forward Stateroom.
If you look on the deck at the forward end of the passageway you have an access panel. inside this panel is access to the shower sump pump, macearator, garber drain and bilge pump. The photo below shows these items.

Head

Standing in the passageway doorway looking down and to the right we have the toilet. Above the counter and to the right is a mirror. Behind the mirror is storage. Next you find the toilet control. Then you have the sink, with storage underneath. To the left of the sink storage is a switch panel. This switch panel controls the exhaust and courtesy lights. You also have an electrical outlet left of

the sink above the counter. If you look above the sink we have two lights. To the right of the lights is the exhaust vent. To the left you have the A/C Vent. At your left you have a couple of towel bars and hooks, and the door to the forward stateroom. The photographs below display the **Head**.



FORWARD STATEROOM

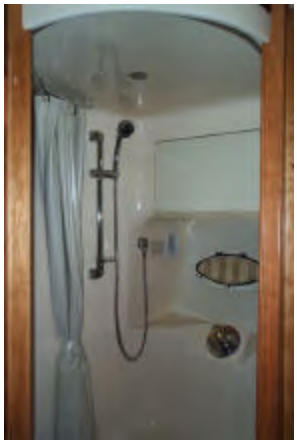
When standing in the doorway into the forward stateroom to your right is the door to the head. Looking counter-clockwisearound the room you have a light switch and an air conditioning control. Next is a cedar closet. The top of the closet is removable. This is where you will find the motor for the head exhaust. Your shelf is next, with an electrical outlet above the shelf. All the way forward is two lights with a control for each light. Then you have the portside shelf, which is where you would have the optional 13" TV and VCR combination. Behind the TV is the electrical outlet and cable hook-up. To the left of that is the CO Monitor. Under the shelf is a storage cabinet. Still going counter-clockwise, we have another cedar closet.. The top of the closet is removable. This is where you will find the motor for the exhaust in the shower unit, and the motor for the exhaust in the dinette.. Then you have the door into the shower unit.

Right in front of you is the bed unit. A lot of goodies are located below this unit. In the front is three large drawers. On the starboardside is an A/C intake vent and a storage locker. You have the same on the port side. If you lift the mattress you will find two access panels. The larger one is where you find storage and below the storage is a the A/C unit.. The other panel is for storage.

If you look up you will see the A/C outlet. Do not block this outlet. Above the bed is the Emergency Escape Hatch.

Turn around. Notice the door slides. If you slide the door closed you will find a large full length mirror.

Portside Shower Unit



Now let's enter the shower using the forward stateroom door. Notice the mirror. Behind the mirror is storage! Once open, you just pull the center of the spring to close the panel. Be careful, this is a two hand operation. You have the shower unit, with the controls. You also have an exhaust vent. Then there is the door to the mid stateroom.

Midships Bunk Room

The photograph below displays the midships Bunk Room as view from the Midships Passageway.

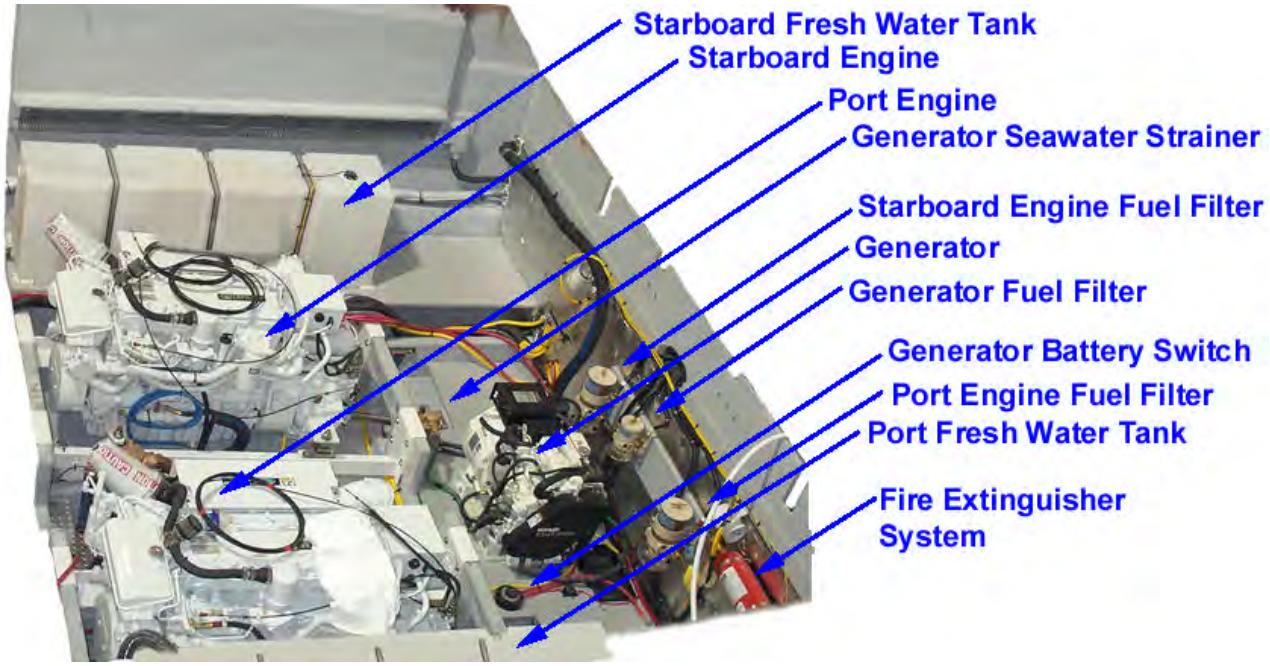
Standing in the mid stateroom door and looking to the right, we have the shower door. Going aft we have a large cedar closet with a drawer underneith. To the left of the closet is a light switch. On the closet bulkhaed facing aft is the CO Monitor.

Above the bed are two lights. Each light has individual controls on the bulkhead.

Under the mattress are three access panels. The two panels at the head of the bed are for storage. The larger panel is also for storage, and this is where you would find the Central Vucumn Unit. Also under the bed unit is a drawer.

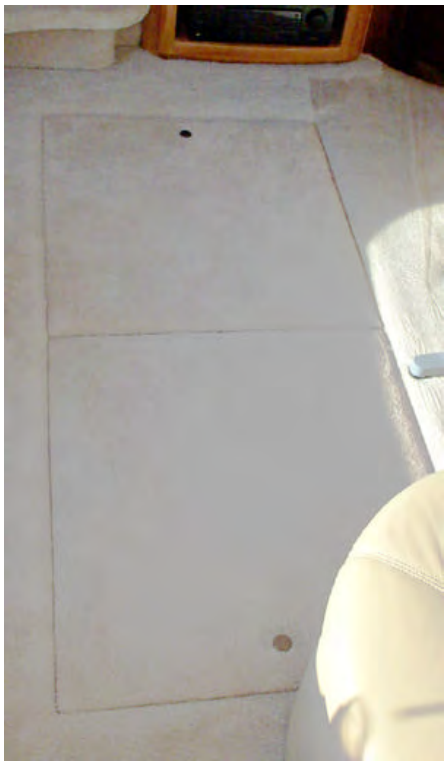
At the foot of the bed on the bulkhead are four knobs. The top two are doors and the bottom two are drawers. Behind the lower door, is an electrical outlet, and a cable hook-up. This is where you would locate the optional 9” TV and VCR Unit.

ENGINE COMPARTMENT



Engine Room Access

Access to the engine room is through the two panels in the Salon Deck.



Fresh Water Pump

On the forward wall is the Fresh Water Pump. For more information about this system please refer to the Fresh Water Pump pages in the System Operations section of this manual.

BOATING SAFETY

Silverton believes your safety aboard your yacht, whether cruising or moored at your dock, is extremely important. A yacht operated in a safe manner will provide you, your passengers and other boaters many pleasurable hours of cruising and peace of mind. This section discusses the potential hazards that may be associated with boating for your awareness so they may be avoided, if possible. Be certain to read and have a thorough understanding of this section.

Silverton recommends completing a safe boating course if you are new to boating. Even if you are an experienced boater, you should consider enrolling in one of these courses as they will provide you with updated information that will prove to be valuable and enhance your cruising pleasure. Your local United States Coast Guard Axillary and United States Power Squadrons offer comprehensive safe boating classes several times a year. You may contact them for a course schedule in your area or the Boat/U.S. Foundation at 1-800-336-BOAT, or in Virginia, at 1-800-245-BOAT.

Safety Equipment

Important: Federal Law requires you provide and maintain certain safety equipment on your yacht. As the yacht owner, you are responsible for providing all required safety equipment. Consult the United States Coast Guard and your state and local regulations to ensure your yacht is in complete compliance with all requirements concerning safety equipment on board. Additional safety equipment may be recommended for your safety and the safety of your passengers. Be aware of its availability and specific use.

Minimum Recommended Safety Equipment

✘ Required life saving equipment, including personal flotation and throwing devices.

✘ Required fire-extinguishing equipment.

✘ Required visual distress signal devices.

✘ First aid kit.

✘ Emergency position indicating radio beam (EPIRB).

✘ Manual bailing device.

✘ Anchor with sufficient line/chain.

✘ Flashlight with fully charged batteries.

✘ Binoculars.

✘ Whistle.

✘ VHF Radio.

✘ Navigational charts for your cruising areas.

✘ Fog Bell(boats over 39.4 feet).

If you need assistance, please feel free to contact our Customer Service Hotline at 1-800-882-9266.

Personal Flotation Devices (PFD's)

United States Coast Guard regulations require you to have at least one(1) approved Type I, Type II or Type III Personal Flotation Device(PFD) for each person on board. The PFD's must be of suitable size for each person aboard and must be maintained in serviceable condition and readily accessible. A minimum of three(3) PFD's(two wearable and one throwable) are required, regardless of the number of persons on board. Each of these Personal Flotation devices, commonly known as "Life Jackets", are described as follows:

TYPE 1(Wearable): This off-shore PFD has the greatest boyancy. It is most effective for all waters

where rescue may be delayed. Its design allows for turning most unconscious persons in the water from a face down position to a face up position, assisting in the prevention of drowning.
Type II(Wearable): This near-shore PFD provides less buoyancy than a Type I PFD. It is intended for use in calm, inland waters or waters where there is a greater chance of a quick rescue. It turns its wearer to a face up position as does the Type I PFD, but the turning action is not as pronounced. A Type II PFD may not turn as many persons to a face up position under the same conditions as would a Type I PFD.

Type III(Wearable): Classified as a flotation aid, the Type III PFD permits the wearer to place himself in a vertical or face up position, but it will not do it automatically as would a Type I or Type II PFD. The Type III PFD has the same minimum buoyancy as a Type II PFD, but it has little, or no, turning ability. It is intended for use in calm, inland waters where immediate rescue is probable. The Type III PFD is used most often by people participating in water sports, as it is generally the most comfortable type for continuous wear.

Type IV(Throwable): United States Coast Guard regulations require at least one (1) throwable Type IV PFD to be on board, regardless of the number of passengers. The Type IV PFD is not intended to be worn; it is intended to be thrown to a person who has fallen overboard and is conscious. The Type IV PFD is held by the user until rescued. The most common examples of Type IV PFD's are buoyant cushions or ring buoys and they are required to be immediately available for use and in serviceable condition.

Note: United States Coast Guard regulations for the number and type of PFD's are the minimum required. Silverton recommends exceeding the minimum requirements for your safety and the safety of your passengers.

Fire Extinguishing Equipment

As a yacht owner, you are responsible to maintain a minimum number and type of portable fire extinguishers on board. All fire extinguishers must be approved by the United States Coast Guard and be readily accessible and in serviceable condition.

United States Coast Guard classification includes foam, carbon dioxide and chemical fire extinguishing materials, which are described in detail in the **Portable Fire Extinguisher System Section** of this Owner's Manual. Be certain to read and have a thorough understanding of the portable fire extinguishing equipment. United States Coast Guard minimum requirements for portable fire extinguishers maintained aboard your yacht are as follows:

✷ **Yachts longer than 26 feet and shorter than 40 feet:** Two(2) Type B-I or at least one(1) Type B-II portable, hand-held fire extinguisher. If your yacht has a fixed fire extinguishing system approved by the United States Coast Guard, one(1) Type B-I portable fire extinguisher is required.

✷ **Yachts longer than 40 feet and shorter than 65 feet:** Three(3) Type B-I or one(1) Type B-I and one (1) Type B-II portable, hand held fire extinguishers. If your yacht has a fixed fire extinguishing system approved by the United States Coast Guard, two(2) type B-I or one(1) Type B-II portable fire extinguisher is required.

Note: United States Coast Guard regulations are the minimum requirements. Silverton recommends exceeding the minimum requirements for your safety.

Fire Safety

Fire safety is something that everyone who owns or operates a boat should practice. Each year, boating fires and explosions injure hundreds of boaters and cause millions of dollars in property damage. While there is a greater chance of a fire or explosion on a boat than on land, most of these accidents can be prevented. With a little effort on your part, fire prevention and fire safety are very attainable goals.

As owner of your yacht, it is your responsibility to:

✔ Have fire-fighting equipment inspected at regular intervals.

✔ Replace fire-fighting equipment, if expired or discharged, with devices of equal or greater fire-fighting capacity.
✔ Inform members of the crew and guests about:

- the location and operation of fire-fighting equipment.
- the location and operation of escape hatches.

✔ Ensure that fire-fighting equipment is readily accessible.

✔ Keep passageways to exits and escape hatches clear of obstructions.

✔ Never allow the use of gas lights on board.

✔ Never leave the boat unattended when cooking or heating appliances are in use.

✔ Never modify any of the boat's systems(especially electrical, fuel, and ventilation).

✔ Never handle fuel of any type when machinery is running or when cooking or heating appliances are in use.

✔ Follow proper fueling procedures(discussed in the fuel safety section of this publication).

✔ Never smoke while handling fuel.

✔ Keep machinery and bilge areas clean and free of debris.

✔ Always sniff for fuel vapors before starting engines or generator.

If you need assistance, please feel free to contact our Customer Service Hotline at 1-800-882-9266.

Other good ways to prevent fire aboard your yacht is to keep the bilge areas clean and to check for fuel and gas vapors at regular intervals, and not to fit free hanging curtains or other fabrics in the vicinity of, or above, cookers or other open flame devices. Also combustible material should not be stored in the engine compartment. If non-combustible materials are stowed in the engine space they shall be secured against falling into machinery and shall cause no obstruction to access in or from the space.

hing that you as the yacht owner are responsible for. Too much fire prevention is not possible. This is an area that is unfortunately often over-looked by boat owners. However, as long as this area is an important part of your boating safety preparation, you can help to make your journeys safer for not only for you, but your crew and family as well.

VISUAL DISTRESS SIGNAL DEVICES

The United States Coast Guard requires all boats operating on the coastal waters of the United States to maintain visual distress signal equipment(flares) on board. Coastal waters are defined as all waters, except rivers, streams and inland lakes. The Great Lakes and any river mouth greater than two(2) miles wide are considered coastal waters. All boats owned in the United States and operating on the high seas are required to carry visual distress signal equipment on board.

All visual distress signal devices are required to be maintained in serviceable condition and stowed in a readily accessible location. Equipment displaying a useful service life date must be within the specified usage date shown. Both pyrotechnic and non-pyrotechnic equipment must be United States Coast Guard approved.

Pyrotechnic visual distress signal devices and their associated equipment include the following:

☆ Red Flares - Hand held or aerial.

☆ Orange Smoke - Hand held or floating.

☆ Launchers for aerial red meteors or para-chute flares.

Non-pyrotechnic visual distress signal devices include the following:

☆ Orange Distress Flag.

☆ Dye Markers.

☆ Electric Flashing Distress Light.

No single visual distress signal device is perfect for all conditions or purposes. Silverton recommends carrying various types of devices as described above. Careful selection and the proper stowage of visual distress signal equipment is extremely important. If young children are frequently aboard, you should select devices with packaging which children, but not adults, will find difficult to open.

Sound Signaling Devices

The United States Coast Guard requires all boats over 16 feet in length to have a device that is capable of producing a sound signal when conditions require. Boats greater than 26 feet and less than 39 feet, 4 inches, must have a sound signaling device that is capable of producing a four(4) second blast, which can be heard at least one-half mile away. The device may be either hand held or power operated. Boats greater than 39 feet, 4 inches must have in addition to the above sound signaling device, a whistle and a bell, which must meet or exceed the requirements of the Inland Navigational Rules Act of 1980.

Refer to the United States Coast Guard publication *"Navigational Rules, International-Inland"* for specific requirements of sound signaling devices.

Navigation Lights

The United States Coast Guard requires all boats that are operated during the hours of darkness or when visibility is impaired, be equipped with navigation lights that are illuminated. Observe all rules of navigation when meeting or passing another vessel. **DO NOT** operate your yacht at high speeds during night operation or when visibility is impaired. A good rule to follow is to **NEVER** operate your yacht at a greater speed than that which would prevent you from stopping within the distance of your visibility.

Always use common sense and good judgement when operating your yacht at night or during restricted visibility.

Refer to the United States Coast Guard publication *"Navigational Rules, International-Inland"* for specific navigational lighting requirements.

Additional Safety Equipment

You should consider having additional equipment on board your yacht to help make your cruising experience safer and more enjoyable. Some examples of this additional equipment are as follows:

✔ Anchor with chain and/or line.

✔ Boat hook.

✔ Bucket and sponge.

✔ Commonly used spare parts, such as hose clamps, spark plugs, etc.

✔ Compass.

✔ Docking lines.

✔ Engine and accessory manuals.

✔ Extra keys.

✔ Extra V-belts.

✔ Fenders.

✔ First aid kit.

✔ Flashlight with extra batteries.

✔ Manually operated bilge pump.

✔ Navigational charts for your cruising area.

✔ Owner's Manual.

✔ Replacement light bulbs.

✔ Ship-to-shore radio.

✔ Spare fuel and oil filters.

✔ Spare propeller with fastening hardware.

✔ Tool kit.

Navigation Rules of the Road ____

Navigating your yacht is much the same as driving an automobile. Operating either one responsibly means complying with a set of rules intended to prevent accidents. Just as you assume other automobile drivers know the rules of the road and expect them to abide by them, other boaters assume the same of you. As a responsible yachtsman, you must comply with the **"Rules of the Road"**; the marine traffic laws enforced by the United States Coast Guard. There are two(2) sets of rules: The **United States Inland Navigational Rules** and the **International Rules**. The United States Inland Navigational rules apply to all vessels operated within the demarcation lines separating inland and international waters. The United States Coast Guard publishes the **"Rules of the Road"** in its publication *"Navigational Rules, International-Inland"*. You can obtain a copy of this publication from your local United States Coast Guard Unit or the United States Coast Guard Headquarters, 1300 "E" Street NW, Washington, D.C. 20226.

Other helpful publications available from the United States Coast Guard include, *"Aids to Navigation"* (Pamphlet #123), which explains the significance of various lights and buoys; *"Boating Safety Training Manual"*; *"Federal Requirements For Recreational Boats"*. Be certain to check with your local United States Coast Guard station, your Silverton dealer or a local marina concerning navigational aids unique to your yachting area.

It is impossible to establish rules for every type of yachting situation. Therefore, it is extremely important to use common sense and good judgement when operating your yacht. Some of the basic rules to follow are:

✗ Always adhere to navigational rules to avoid collisions.

✗ Less maneuverable boats generally have the right-of-way. Always steer clear of the Stand-on vessel (boat having the right-of-way) and pass to its stern in a crossing situation.

✗ If a collision appears unavoidable, **BOTH** vessels must act **IMMEDIATELY**. Prudence **ALWAYS** takes precedence over the right-of-way rules if a collision is imminent.

✗ **NEVER** send a **"MAYDAY"** message unless there is a serious emergency and you are in need of immediate assistance.

Be certain you understand important terminology distinctions:

Power Driven Vessel
A boat propelled by an engine, including a sailboat propelled by an engine and sails.

Sailing Vessel
A boat propelled by sail only, with no engine in operation.

Vessel Engaged In Fishing
A commercial fishing boat with apparatus that restricts its maneuverability (does not include trolling lines or other apparatus that does not restrict its maneuverability).

Vessel With Restricted Maneuverability
Any vessel, due to it size, draft or cargo, that is restricted in its ability to maneuver in a certain waterway.

Underway
Any vessel not anchored, not made fast to shore and not aground, whether or not it is under power or sail.

Basic Rules of Navigation _____

Power driven vessels must give the right of way to the following:

- ✗ A vessel unable to maneuver.
- ✗ A vessel whose maneuverability is restricted.
- ✗ A sailing vessel.

Sailing vessels must give the right of way to the following:

- ✗ A vessel unable to maneuver.
- ✗ A vessel whose maneuverability is restricted.
- ✗ A vessel engaged in commercial fishing.

Vessels engaged in commercial fishing must give the right of way to the following:

- ✗ A vessel unable to maneuver.
- ✗ A vessel whose maneuverability is restricted.

Basic Rules of Safe Boating

✕ **Drugs and/or Alcohol and Boating DO NOT Mix.** Drugs and/or alcohol decrease your reaction time, impair your judgement and inhibit your ability to safely operate your yacht. As a responsible boater, you will refrain from using drugs or alcohol (singly or combined) while you are operating your yacht. Operation of motorized vessels while under the influence of drugs and/or alcohol carries a severe penalty.

✕ Always maintain your yacht and its equipment in safe operating condition. Inspect the hull, engines, safety equipment and all boating accessories on a regular basis.

✕ Be certain lifesaving and fire extinguishing equipment is on board. This equipment must meet or exceed regulatory standards and it should be noticeable, easily accessible and in proper operating condition. Your passengers should know where this equipment is located and how to use it.

✕ Be certain you have sufficient fuel on board for your anticipated cruising requirements. In general, anticipate using 1/3 of your fuel supply to reach your destination and 1/3 of your fuel supply to return. Always maintain 1/3 of your fuel supply in reserve for changes in your plans due to unforeseen weather conditions or other circumstances.

✕ Use **EXTREME CAUTION** while fueling your yacht. Be certain you know the capacity of the fuel tank(s) and the amount of fuel you consume when operating at your normal cruising speeds. Read and have a thorough understanding of the **Fuel System Section** of this Owner's Manual. It contains valuable information and warnings that, if strictly adhered to, will enhance your yachting pleasure and safety.

✕ Check the weather forecast before getting underway. DO NOT venture out if the weather is, or is expected to be, threatening. While underway, always be cognizant of changing weather conditions by frequently checking the local forecast. Monitor strong winds and electrical storms closely and head for sheltered waters or your marina BEFORE they are encountered.

✕ Always maintain accurate, updated charts of your cruising area on board and refer to them frequently. DO NOT rely on your memory of an area. All waters, particularly tidal waters, are subject to constant changes, such as shoaling and underwater hazards.

✕ Always file a Float Plan with a responsible person before you depart on your cruise.

✕ Instruct at least one other person on board your yacht in its basic operating procedure. This person can take over the operation of your yacht if you unexpectedly become unable to do so.

✕ DO NOT permit your passengers to ride on parts of your yacht that are not intended for passenger use, such as the gunwales or the bowrail.

✕ Ask all persons to remain seated while your yacht is in motion, particularly during inclement weather.

✕ DO NOT use the swim platform or boarding ladder while the engines are in operation, whether or not your yacht is in motion.

✕ Always maintain a good lookout. Keep away from swimmers, divers and water-skiers. They should display a flag when engaged in these types of water sports, but DO NOT rely upon it; if you suspect that type of activity, it is best to avoid that area, if possible.

✕ Understand and obey the "Rules of the Road".

✕ Understand and obey all local boating laws.

✕ Always maintain complete control of your yacht.

✕ Finally, ALWAYS operate your yacht with care, courtesy and common sense.

Voluntary Safety Inspections

The United States Coast Guard Auxiliary and boating officials in many states offer courtesy safety inspections of your yacht at no charge to you. They will examine your yacht for compliance with all safety standards and required safety

equipment. You may voluntarily consent to one of these inspections and you are given sufficient time to make necessary corrections without fear of prosecution for any discrepancies found. Contact your local United States Coast Guard Auxiliary or appropriate state agency for details concerning these courtesy safety inspections.

CARBON MONOXIDE SAFETY

CARBON MONOXIDE CAN KILL!

This section is intended to provide educational information about carbon monoxide relative to boats and boating. Carbon Monoxide accumulation is affected by boat geometry, hatch, window and door openings, ventiation openings, proximity to other structures and boats, wind direction, boat sopeed, boat maintenance and a multitude of other variables. This section discusses many of these and enables the boat owner to better understand some of the more predictable effects. However, this information is limited in that it cannot cover all conceivable variables. Therefore, the boat owner is cautioned not to exclusively rely on it to prevent the accumulation of carbon monoxide.

WHAT IS CARBON MONOXIDE?

Carbon monoxide is a highly poisonous gas formed by the combination of carbon and oxygen. Commonly referred to as CO, its chemical formula, “C” for carbon and “O” for oxygen. CO is a colorless, odorless, and tasteless gas that by itself can not be detected by human senses. CO diffuses in the air much more rapidly than any other gases that are detectable by the human senses. The weight of CO is about the same as air so it does not rise or fall like other gases but will distribute itself throughout the boat. CO is produced any time a material containing carbon is burned. In boating these materials include, but are not limited to, gasoline, diesel fuel and propane. All carbon based fuels produce varying amounts of CO, depending on their carbon content. Gasoline is high in carbon and therefore produces high levels of CO. Diesel fuel is low in carbon and therefore produces lower levels of CO. However, the exhaust of all engines and generators as well as any open flame device produce CO and the same precautions should be taken regardless of the type of fuel.

HOW A PERSON IS AFFECTED BY CARBON MONOXIDE

When breathed, carbon monoxide is absorbed by the lungs and reacts with the blood hemoglobin to form carboxyhemoglobin, which reduces the oxygen carrying capacity of the blood. The result is a lack of oxygen for the tissues with the subsequent tissue death and, if prolonged, death of the individual. Carbon monoxide in high concentrations can be fatal in a matter of minutes. Even lower concentrations must not be ignored because the effects of exposure to CO are cumulative and can be just as lethal. Certain health related problems and age increase the effects of CO. People, who smoke or are exposed to high concentrations of cigarette smoke, consume alcohol or have lung or heart disorders are particularly susceptible to an increase in the effects from CO. However, the health of all of the boat’s occupants should be considered. Physical exertion accelerates the rate at which the blood absorbs CO. The early effects of CO poisoning are easy to overlook because they are similiar to the effects of other boating related stresses such as eye strain, fatigue, sun exposure, seasickness, or alcohol consumption. But as the concentration of CO in the air increases, it has increasingly adverse effects on your health.

One or more of the following symptoms can signal the adverse effects of carbon monoxide accumulation. The order of this list is generally the sequence of symptoms. However, the number of symptoms and the order of appearance may change for different people:

Watering and itching eyes
Flushed Apperance
Throbbing temples
Inattentiveness
Iability to think coherently
Ringing in the ears
Tightness across the chest
Headache
Drowsiness
Incoherence
Nausea
Dizziness
Fatigue
Vomiting
Collapse
Convulsions

WHAT TO DO WHEN SOMEONE IS OVERCOME WITH CARBON MONOXIDE

When someone falls victim to carbon monoxide poisoning, fast and responsive action is crucial. Know the symptoms. The earlier effects of CO are detected the better the chance for recovery. The following list shows the sequence of events that must be done in an effort to revive a CO victim:

Evacuate, Ventilate, Investigate, Take Corrective Action

Move the person to fresh air

Administer oxygen if available

Contact medical help

If the victim is not breathing, perform artificial respiration per approved CPR procedures until medical help arrives and takes over. Prompt action can make the difference between life and death.

Ventilate area

Investigate the source of CO and take corrective actions.

HOW DOES CARBON MONOXIDE ENTER YOUR BOAT?

Any device that burns fuel creates carbon monoxide. For example, a propane cooktop or a space heater are both potential sources for CO. But the most serious danger comes from the gasoline engines and generators aboard your own and neighboring boats. There are four basic ways that CO from a running engine or generator can enter your boat:

The “station wagon effect” results from the aerodynamics of deck cabins and flying bridges. With the boat under way, the air flow over the top forms a low pressure area behind the cabin or transom which can suck exhaust gasses into the cockpit and the cabin. Inefficient trim angles also can cause the station wagon effect.

Obstructions are principally a problem when boats are rafted together or tied to a dock or seawall. Against an obstruction, exhaust gasses which normally dissipate may instead be directed back to your boat. Beware of open windows, hatches, doors and the location of the engine intake. Exhaust contains particularly high concentrations of CO when an engine is cold; so to protect yourself and your neighbors, minimize the time spent getting underway. Pay particular attention to potential obstructions when running a generator for long periods.

Infiltration of CO from a neighbor’s exhaust can be a problem aboard any boat at any time. Infiltration can happen any time your neighbors are running a generator or engine, even when they are many slips away.

Leaks in your own exhaust system from the engines or generator can allow harmful levels of CO to accumulate at a surprising rate. Good mnaintenance practices are critical to avoid this.

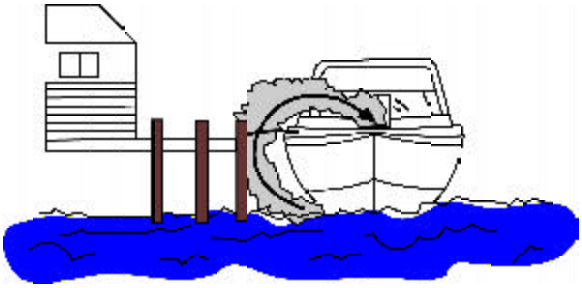
There are many variables that combine to affect the accumulation of carbon monoxide.

Some of these variables are; the presence of weather enclosures and covers, boat layout and configuration, location of ports, hatches, windows, doors, and vents, proximity and types of structures and other boats, wind speed and direction, speed of the boat, etc. Although it would be impossible to identify every variable or combination of variables that may affect the accumulation of carbon monoxide, the boat operator must remain aware at all times of the possibility of CO accumulation.

The following illustrations show some of the ways that cabon monoxide gas can accumulate in your boat while at dock and underway. Become familiar with these examples to prevent exposure to this poisonous gas.

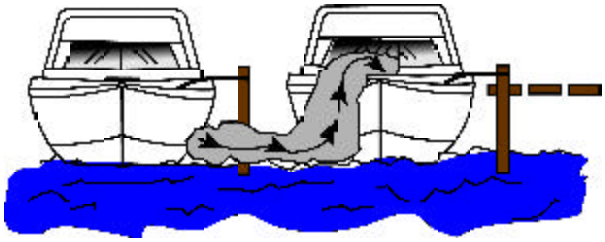
DANGER

Blocked hull exhaust outlets near a pier, dock, seawall, bulkhead or any other structure can cause excessive accumulation of Carbon Monoxide Gas(CO) within the cabin areas of your yacht. Be certain hull exhaust outlets are not blocked in any way.



DANGER

Engine and generator exhaust from other vessels alongside your yacht, while docked or anchored, can cause excessive accumulation of Carbon Monoxide Gas(CO) within the cabin and cockpit areas of your yacht. Be alert for exhaust from other vessels.



DANGER

When protective weather coverings are in place, engine or generator exhaust from your yacht, while docked, at anchor, drifting or underway can cause excessive accumulation of Carbon Monoxide Gas(CO) within the cabin and cockpit areas of your yacht. Always provide adequate ventilation when the weather coverings are in place and either the engine or the generator are running.

DANGER

Engine or generator exhaust from your yacht while underway at a slow speed can cause excessive accumulation of Carbon Monoxide Gas (CO) within the cabin and cockpit areas of your yacht. A tail wind can increase the accumulation. This is often referred to as the "Stationwagon Effect". Always provide adequate ventilation or increase your speed, if possible.

DANGER

Engine or generator exhaust from your yacht while underway and operating with a high bow angle can cause excessive accumulation of Carbon Monoxide Gas(CO) within the cabin and cockpit areas of your yacht. Always provide adequate ventilation and redistribute the load to lower the bow angle.

HOW TO MINIMIZE THE ACCUMULATION OF CARBON MONOXIDE

Practice good inspection and maintenance habits

Be certain hull exhaust outlets are not blocked or restricted in any way.

Be elert for exhaust gasses from other boats.

Always provide adequate ventilation when weather enclosures are in place and engines or generator is running.

Do not run with a high bow angle. Use trim tabs or reditribute the load to maintain a low bow angle.

Orient your boat to maximize the dispersion of CO.

Be aware of the effects of your actions on other boats.

Be aware of the effects of the actions of others on your boat.

Provide adequate ventilation when open flame appliances are used in the cabin.

PREVENTIVE MAINTENANCE

Frequent inspections and proper maintenance of the engine, generator, and exhaust systems as well as other various areas of your boat are critical in preventing the accumulation of carbon monoxide. It is the owner's responsibility to make sure that the entire boat is inspected and maintained against CO.

The exhaust systems of your engines and generator are under constant attack from salt water, gasses, vibration and normal wear. Inspect every exhaust system component often. Start with a visual inspection. Check each joint for discoloration, carbon buildup, stains, water leaks or other signs of damage. Inspect all metal parts for corrosion, discolorationb or flaking. Check that all hose clamps are in good condition and properly tightened. Carefully inspect all exhaust and cooling hoses for signs of wear, dry rot, cracking, discoloration, chafing or swelling. If any of these conditions exist, have the entire system inspected and corrected by a qualified technician before starting the engines or generator.

Next, start each engine and generator one at a time. Follow the full run of the exhaust system, listening and looking for leaks. While doing this, make sure there is adequate ventilation and that your CO detector is on.

Other items to inspect are as follows: Chack that access panels around the engine and exhaust are in place and fit snugly to minimize the opportunity for CO to enter the cabin. There should be no large openings where CO could enter the cabin. Ensure that all ventilation systems are in good working order, and not blocked or punctured. Check all sink drains to assure that they have a good water trap to prevent CO from coming in from the outside.

Finally, because poor running engines produce excessive CO, make sure engines and generator are tuned up. They should run smoothly and not produce black smoke. The spark plugs and ignition systems should be maintained regularly, and the fuel system and air filters should be in good order.

Fuel Safety

Gasoline and Diesel Fuel are extremely flammable. Proper handling is necessary to provide for the safety of you and your yacht.

✷ DO NOT smoke while fueling.

✷ Make sure that all accessories, both engines, and generator are turned off before beginning to fuel your yacht.

✷ When fueling your yacht in warm weather, allow for expansion of the fuel and do not top off the fuel tanks. The tanks may overflow when the fuel expands after being pumped out from cool, underground tanks or when the air temperature is cool, such as early morning or evening.

✷ Always handle fuel with care.

✷ Never store fuel in portable containers aboard your yacht.

EMERGENCY SITUATIONS

Swamped or Capsized Yacht

If your yacht becomes swamped or capsizes, immediately put on a PFD and set off a visual distress signal. A swamped or capsized yacht will normally stay afloat. **DO NOT** leave your yacht or attempt to swim to shore, except under extreme conditions, such as fire or explosion. A capsized yacht is much easier to see by a potential rescuer than a person swimming, resulting in a greater chance of rescue. If you attempt to swim to safety, the shore may be farther away than it appears and you may tire and not be able to reach your destination, resulting in possible drowning.

Hypothermia

If a person falls overboard or is in the water due to a swamped or capsized yacht, hypothermia may be an immediate concern. Hypothermia exists when the body loses heat faster than it can replace it. If not rescued within a short period of time, the person will become exhausted and likely drown. In general, the colder the water, the shorter the time for survival. If the person is wearing a PFD, it will greatly increase his survival time as they act as an insulator and will also keep the person afloat even if he is unconscious.

Collision

If a collision occurs, the following procedure should be strictly adhered to:

✷ Be certain all passengers put on their PFD. If a passenger is unable to put on his own PFD due to a disabling injury, assist him.

✷ Examine all persons on board for any injuries and administer first aid, if necessary.

✷ If your yacht has a VHF radio, contact the United States Coast Guard and any other potential rescue vessel and advise of your situation and location. VHF radio contact may be made on Channel 16 and Citizen's Band(CB) radio contact may be made on Channel 22.

✷ Inspect your yacht to determine the extent of damage and its potential for sinking.

✷ Prepare to assist the other craft and its passengers, if possible.

✷ If the collision resulted in penetration of your hull, prepare to quickly plug the fracture with a spare life jacket or bunk cushion once the vessels are separated.

✷ Before plugging the fracture, trim the yacht to place the damaged section above the water level.

✷ Remain with your yacht until assistance arrives.

Running Aground

✷ If your yacht runs aground, examine everyone on board for injuries and render first aid, if necessary.

✷ Examine your yacht for damage to the hull and running gear. If no serious damage is noted, attempt to free the yacht by shifting weight to the bow to raise the stern and then reverse the engines

and back out of the shallow water into deeper water.

✷ If towing is necessary, **DO NOT** attach the tow line to the deck cleats. They are not designed to take the full load of the yacht under pressure.

Silverton recommends using a commercial towing service for your safety and to decrease the potential for additional damage to your yacht as a result of removing it from the underwater obstruction.

NEVER attach a tow line to a deck cleat or anchor windlass. The cleat or windlass may pull free from the deck and cause serious personal injury or property damage.

Hazardous Weather Conditions

Storms

Storms rarely appear without some advance warning. Check the local weather forecast before you leave port, but be aware that weather conditions can change rapidly. If you have a VHF radio, listen to the continuous weather reports issued by the National Weather Service. If you have a portable radio, keep it tuned to a station that broadcasts frequent weather reports. If you are tuned to an AM frequency, listen for static; it often means an electrical storm is approaching. Many boating clubs fly weather signals in the form of flags or lights. Learn to recognize these signals.

Your surroundings can also be a good indicator of changing weather conditions. Watch for changes in wind direction or cloud formations. There is no substitute for a good understanding of typical weather conditions and what to do when it takes a turn for the worse.

Fog

Fog is the result of either cold air passing over a warm earth surface or warm air passing over a cold earth surface. You can judge the likelihood of fog formation by periodically measuring the air temperature and the Dew Point temperature (temperature at which moisture in the air will develop), which is given during a normal weather forecast. If the difference between these two temperatures is small, fog is likely to develop. Always remember the following guidelines if you encounter fog conditions:

- Unless your yacht is well equipped with charts, head for shore at the first sign of fog and wait until conditions improve before continuing your cruise. If you have charts on board, take your present location bearings as the fog sets in, mark your position and continue to log your course and speed.

- **REDUCE YOUR SPEED.**

- Be certain all persons on board are wearing their PFD.

- Station a person forward as a lookout.

- Sound your horn or fog bell at the appropriate intervals to warn other vessels of your presence. Refer to the *"Rules of the Road"* for information concerning the proper duration and interval of the fog signal.

- Listen for fog signals from other vessels and be aware of their presence. If possible, determine their proximity to your yacht, but remember, sound carries a long distance over water and can be deceiving.

- If there is any doubt concerning the safety of continuing your excursion, anchor your yacht. Listen for other fog signals while continuing to sound your fog bell or horn. Continue your cruise when conditions improve.

FIRE

Fire aboard your yacht is always serious, but it can usually be brought under control if you are prepared and act quickly. Fire extinguishers required by the United States Coast Guard are the minimum necessary. Silverton recommends exceeding the minimum requirements by placing additional fire extinguishers where they may be needed. Inspect all fire extinguishing equipment frequently and review emergency plans on a regular basis.
As a yacht owner, you should develop a **Fire Response Plan** and familiarize all passengers with this plan before departing on your cruise. The Fire Response Plan will identify the type of fire you may encounter and the appropriate reaction to quickly extinguish it before it gets out of control. Having a Fire Response Plan in place and the assignment of certain responsibilities to your passengers will result in faster and more accurate decisions and reactions in the event of a fire aboard your yacht.

Important: All passengers on board your yacht should know the location of your fire extinguishers and be familiar with their use.

In the event a fire does start aboard your yacht, follow these guidelines:

✔ If you detect a fire or suspect a fire aboard your yacht, immediately turn OFF your engines and electrical power supply. DO NOT turn OFF power to your VHF radio.

✔ Be certain all persons on board put on their PFD.

✔ If the fire is in the engine/generator compartment, DO NOT open the hatch. The fire will flare with the sudden introduction of fresh air.

✔ If you are able to get to the source of the fire, aim your fire extinguisher at the base of the flames and use a sweeping action to extinguish it. Concentrating your fire extinguisher in one location may cause the fire to spread.

✔ If the fire becomes out of control, send a distress signal and call for assistance on your VHF radio. Be certain to provide any potential responders with your location and a description of your situation.

Deciding whether to stay on board your yacht or abandon ship may be difficult and depends on the extent of the fire and the weather conditions. If you decide to abandon ship, all persons on board should jump, not dive, overboard and swim a safe distance away from the burning yacht. Be certain all persons stay together after abandoning ship.

Be certain to read and have a thorough understanding of the **Portable Fire Extinguisher System Section** and the **Automatic Fire Extinguisher System Section** of this Owner's Manual. They contain valuable information and warnings for your safety.

Prevention is the safest and most effective method of fighting fire aboard your yacht. Always follow these guidelines:

✘ Use extreme caution and refrain from smoking while fueling your yacht.

✘ Use only marine safety approved cooking and heating systems and follow the manufacturer's directions concerning their operation.

✘ Open flames demand constant attention. DO NOT leave any open flame unattended.

✘ Ensure ventilation systems are unobstructed.

✘ Always provide adequate ventilation when cleaning and painting.

✘ Use extreme caution when using liquefied petroleum gas (LPG) or compressed natural gas (CNG). Close valves to cylinders and supply lines when not in use.

✘ Operate exhaust blower motors at least five (5) minutes before starting the engines or generator.

✘ Use your sense of smell to check for fumes in the bilge and engine/generator compartment before starting engines or generator.

✘ Always store flammable material in approved containers and in a locker sealed from the interior of your yacht and vented overboard.

✘ Remove the canvas enclosure, at least partially, before starting engines.

✗ Ensure there are no leaks in any fuel system, including LPG/CNG.

✗ Extinguish smoking materials carefully. Check cleaning materials for flammability and store as you would any flammable material.

✗ Always disconnect electrical power before performing any maintenance on electrical appliances.

✗ Always replace electrical breaker switches or fuses with the same recommended amperage. NEVER exceed the recommended amperage.

✗ Electrical service to your yacht should only be performed by a qualified marine electrical technician.

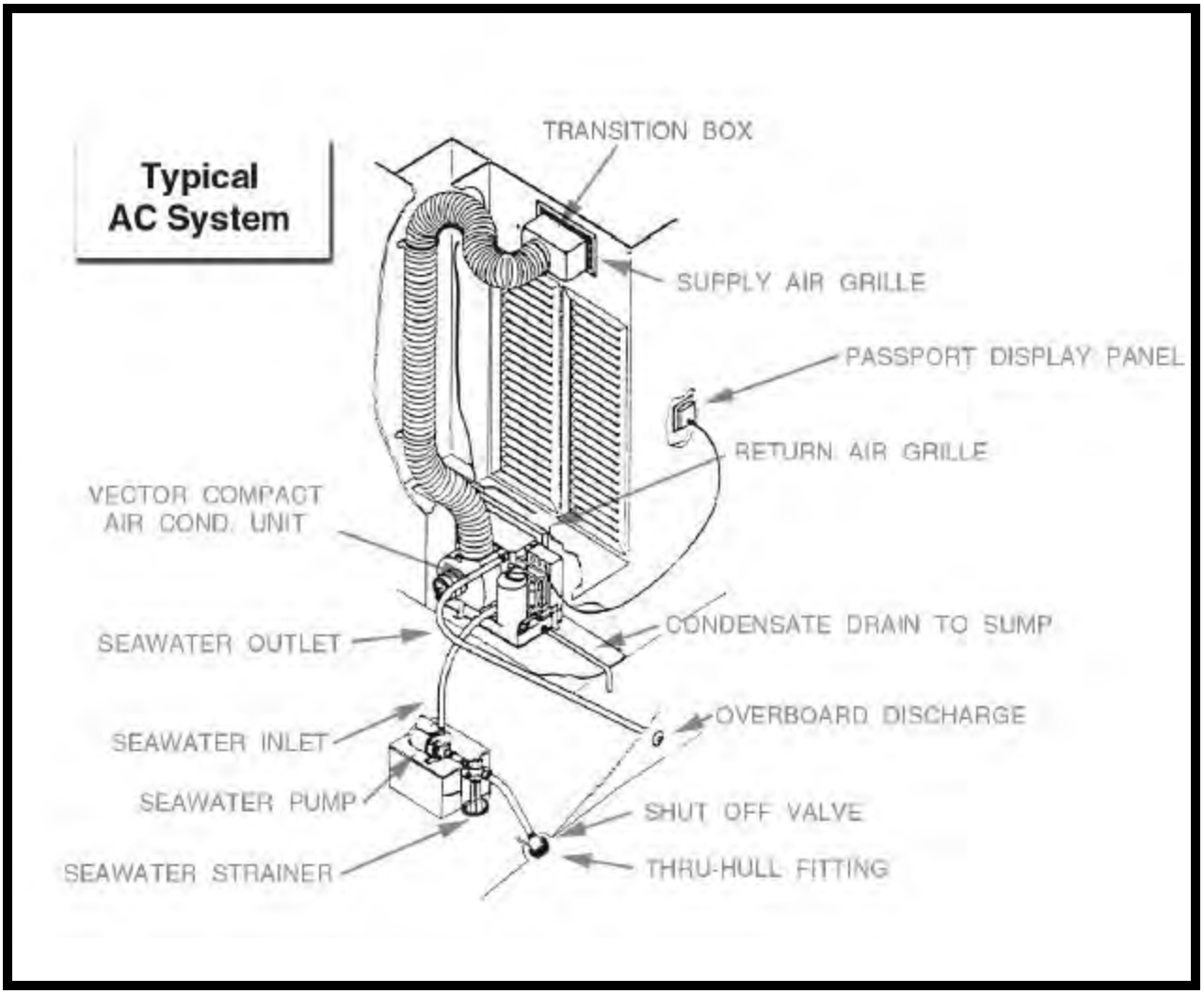
AIR CONDITIONING/HEATING SYSTEM

The **Air Conditioning/Heating System** in your **410 SB** is factory installed. The purpose of this system is to maintain a comfortable cabin temperature and humidity level, regardless of ambient temperature and humidity. Each air conditioning/heating unit in your **410 SB**, which operates on the A/C electrical system, is self-contained and manufactured by *Marine Air Systems*. The two(2) **Air Conditioning/Heating System** units are described as follows:

32,000 BTU Total Capacity

This system utilizes two(2) self-contained air conditioning units, each having a capacity of 16,000 BTU's. The **Forward Unit** is located under the bed in the forward stateroom. The **Aft Unit** is located behind the refrigerator in the galley.

Each air conditioning unit is controlled by an independent thermostatic control panel ("Passport Control"), which is located within the respective cooling/heating zones. The desired zone temperature is manually set on the "Passport Control" and the air conditioning unit is activated to supply cooling or heating as required to constantly maintain the temperature selected.



Each air conditioning unit will operate in a **"Dehumidification"** mode upon demand and is controlled by the "Passport Control". Refer to the *Marine Air Systems* Operation and Maintenance Manual for a complete description and instruction in the operation of this mode. The Interior pages of the GETTING FAMILIAR section in this manual explains where the A/C Units are located.

Operation of the **Air Conditioning/Heating System** in your **410 SB** is as follows:

✔Turn ON the respective air conditioner breaker switch, located on the AC/DC Electrical Panel (See **AC/DC Electrical Panel Layout** in the Schematics Section of this Owners Manual, which illustrates the location of the respective breaker switches).

✔Make sure seawater intake is open and seawater pump is operating properly.

✔Refer to the *Marine Air Systems* Operation and Maintenance Manual for a detailed description of the function of each button located on the "Passport Control".

✔Air Conditioning drains into shower sump. Make sure shower sump circut breaker is turned on when operating Air Conditioning.

✔Turn ON the power button, located on the respective air conditioning unit "Passport Control".

✔Press the fan speed button on the "Passport Control" until the desired speed is obtained.

✔Press the appropriate temperature control button (Down/Up) to obtain the desired temperature.

Only certified and trained service technicians should perform maintenance of your **Air Conditioning/ Heating System**. Contact your Silverton dealer for general maintenance and winterization of the system on your **410 SB**. Untrained persons may carefully perform routine maintenance, such as the cleaning of filters and the exterior surfaces of the condensing coils.

REFER TO THE *MARINE AIR SYSTEMS* OPERATION AND MAINTENANCE MANUAL FOR TECHNICAL INFORMATION CONCERNING YOUR **AIR CONDITIONING / HEATING SYSTEM.**

ANCHOR SYSTEM

The purpose of the **Anchor System** is to make fast your yacht to the ground surface below the water level. You may want to anchor your yacht for a variety of reasons, such as an overnight stay in a harbor, stationary fishing or, if your yacht becomes disabled, to remain in one identifiable location until assistance arrives. The equipment used in anchoring your yacht, also known as "ground tackle", is as follows:

- Anchor
- Anchor Chain or Line (Rode)
- Anchor Chock
- Anchor Cleat
- Anchor Safety Chain
- Anchor Windlass (Optional)
- Rope Locker
- Scope

Anchor

Your **410 SB** is equipped with a plow type anchor, weighing 34.7 pounds. This universal type of anchor is very efficient for a variety of bottom terrain. This is not a storm anchor. Please refer to Chapman's for the recommended need for a storm anchor.

Anchor Chain or Line (Rode)

The Anchor Rode on your **410 SB** may be chain, rope or a combination of both and, depending on the option you selected when you purchased your yacht from your Silverton dealer, the length is as follows:

Standard Equipment: Three hundred(300) feet of nylon rope, 9/16 inch in diameter.

Optional Windlass Equipped(Standard): Fifteen(15) feet of chain coupled to one hundred fifty(150) feet of nylon rope, 9/16 inch in diameter.

Optional Windlass Equipped(Optional): Three hundred(300) feet of chain.

Anchor Chock

The Anchor Chock on your 410 SB is located on the underside of the bow pulpit. The Anchor is pulled into the chocks on the pulpit, to steady the anchor.

Anchor Cleat

Your **410 SB** is equipped with an Anchor Cleat and its purpose is to hold the rope that secures the anchor, after the anchor is set. If your 410 SB is equipped with the optional Windlass Anchor Winch, the cleat will help relieve constant pressure on the winch. Once the proper scope is determined, the cleat keeps the rope at a constant length.The Anchor Cleat is located in the Anchor Hatch.

Anchor Windlass (Optional)

Your **410 SB** may be equipped with an optional power Anchor Windlass, which is located under the Anchor Hatch. The purpose of the Anchor Windlass is to assist in lowering and raising the anchor with a minimum of manual effort. The Anchor Windlass operates on DC electrical power and may be operated from either the helm station or foot controls, which are located on the bow pulpit. Be certain the Anchor Windlass breaker switch which is located in the engine room, and the battery switch which is located in the Passageway, is turned to the ON position. The helm station control consists of a manual rocker-type switch, located on the helm switch panel(See **Helm Panel Layout** in the Schematics Section of this manual, which illustrates the location of the anchor windlass switch). The foot controls, located adjacent to the Anchor Windlass, consist of two(2) foot depressed switches: the RED switch lowers the anchor; the GRAY switch raises the anchor(See photograph below, which illustrates the location of the **Anchor Windlass**, the foot depressed control switches, the **Anchor Cleat** and the **Rope Locker**).

Rope Locker

Your **410 SB** is equipped with a Rope Locker, which is located on the Starboard side of the Anchor Hatch The purpose of the Rope Locker is to store the anchor rode in a convenient location removed from the deck surface. The Rope Locker is accessed by a hatch, which covers the locker and prevents you or your passengers from accidental falls into the storage well(See previous photograph, which illustrates the location of the **Rope Locker**). This Rope Locker has a drain in the bottom. It is recommended that you wash off the salt water with fresh water after use of your anchor and rope.

Scope

Scope is defined as the ratio of the length of the anchor rode to the vertical distance from the anchor chock to the bottom surface(water depth plus the height of the anchor chock above the water). Under favorable current, tidal and weather conditions, a Scope ratio of 8:1 is considered satisfactory. If the rode is chain, the ratio may decrease to 5:1 under the same favorable conditions. It may be necessary to increase the scope ratio under unfavorable weather conditions, such as severe wind and tidal currents, to hold your yacht fast to the bottom. Scope ratio is very important. Please refer to your Chapman's book for all details on anchor rode.

ANCHOR SAFETY CHAIN

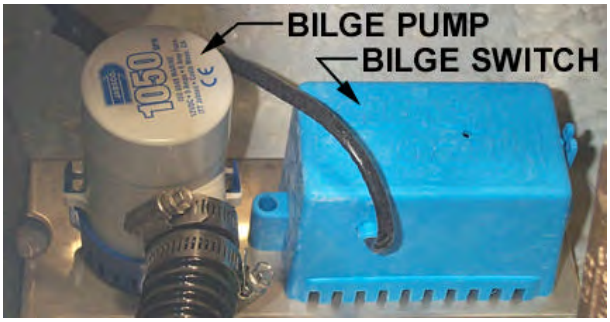
Attatched to the anchor chain is a safety chain. This safety chain must be released before you can use your anchor. This safety chain must be released manually. This safety chain will ensure that the anchor is not released when not being used.

PROPER ANCHORING TECHNIQUE

Proper anchoring techniques are required for safe anchoring of your boat. Please refer to Chapman's book for complete instructions for anchoring your boat.

BILGE PUMP SYSTEM

The purpose of the **Bilge Pump System** is to remove any water that may accumulate within the bilge area of your yacht. Although a small amount of water in the bilge area is expected, the water should never be above the bilge switch. If it is it means the switch is not working corectly. Make sure they are not turned off. If the problem continues, please contact a service technician to solve the problem. The bilge area is defined as the interior area of the hull below the designed waterline. Your **410 SB** is equipped with three(3) *Mayfair* bilge pumps that are capable of pumping 1250 gallons of water per hour. The bilge water is pumped overboard through the central drain.(See **Thru-hull Layout** in the Schematics Section of this manual, which illustrates the location of the central drain discharge port).



Normal operation of the bilge pumps is automatic. Each bilge pump is equipped with a float-type switch that will automatically activate the pump when the bilge water reaches a certain level. The automatic switches are connected directly to the batteries and will operate even if the battery switch is turned OFF. Each of the bilge pumps can also be activated manually by individual switches located on the AC/DC Electrical Panel(See **AC/DC Electrical Panel Layout** in the Schematics Section of this manual, which illustrates the location of the manual bilge pump switches). The bilge pump will operate continuously until the manual switch is turned OFF. The battery switch must be turned ON to operate the bilge pumps manually.

Periodic maintenance of the bilge pumps should consist of the following:

Visually inspect each bilge pump for any debris that may have accumulated. Remove any debris noted.

Manually test each bilge pump by activating the manual switches located on the AC/DC Electrical Panel. Listen to each bilge pump as it is manually activated. They should emit a quiet “whirring” sound. If any abnormal sounds are noted, contact your Silverton dealer for further inspection and replacement, if necessary.

IMPORTANT: After testing each bilge pump by turning ON the manual switches, be certain they are turned OFF. The constant operation of the bilge pumps will eventually discharge the batteries.

While underway the aft bilge pump should be used. While docked, the midships bilge pump should be used.

Location of the bilge pumps is as follows:

- One bilge pump forward(Access is through the floor panel in the midships passageway)

- One bilge pump amidships (Engine compartment area)

- One bilge pump aft(Acessed through the Aft Deck Hatch)

BILGE VENTILATION SYSTEM _

WARNING

The engine and generator compartments on your 410 SB are enclosed areas and are subject to the accumulation of dangerous fuel fumes. If these fumes are not ventilated or properly exhausted from the engine/generator compartment, they may be ignited, resulting in fire or explosion and possible injury or death.

Your **410 SB** is equipped with intake vents for the engine room. These vents are located on the port and starboard side of your **410 SB**. The purpose of these vents is to ventilate the engine room area of your **410 SB**. The photo below shows the vent on the starboard side of your **410 SB**.

For quicker evacuation of air from the engine room, your **410 SB** is equipped with two(2) bilge blowers. The blowers are located in the engine compartment and exhaust out through the hull on the port and starboard sides of your **410 SB**. The photo below shows the blower exhaust on the starboard side of your **410 SB**.

Operation of the bilge blowers is as follows:

✔The battery switch must be turned to the ON position(See photograph on Page 59, which illustrates the location of the battery switch).

✔The bridge electrical breaker switch at the ships shore service panel must be turned ON.

✔Depress the blower motor switch, located on the helm switch panel(See **Helm Switch Panel Layout** in the Schematics Section of this manual, which illustrates the location of the blower motor switch). The small light located on the blower switch will illuminate to indicate the blower motors are in operation.

WARNING

To reduce the risk of fire or explosion within the engine/generator compartments of your 410 SB, the bilge blower motors should ALWAYS be operated under the following conditions:

✔Operate the blower motors for a minimum of five (5) minutes prior to starting the engines or generator.
✔Operate the blower motors for a minimum of five (5) minutes after fueling your yacht before restarting your engines.
✔Operate the blower motors continuously while your yacht is traveling less than cruising speed.

Located right next to the blower is the fuse for the blower.

The photo below shows the blower unit attatched to the exhaust hose.

BONDING SYSTEM

The purpose of the **Bonding System** is to protect your yacht's underwater components from electrolysis and galvanic corrosion. Examples of underwater components would be the propellers, propeller shafts, rudders, engine/generator and seawater intake valves.

Electrolysis and galvanic corrosion occurs primarily in salt water, but can occur to a lesser degree in fresh water. Salt water allows electric current to flow from anodic to cathodic material. Any two metals from two components and their relative positions in the galvanic rating table will determine which metal loses material(anode) and which metal remains largely undisturbed(cathode). The distance apart on the galvanic table of the two metals determines the rate of wear. To help prevent corrosion, sacrificial zinc anodes are fitted to the underwater components of your yacht, such as the propeller shafts and rudders.

A large sacrificial zinc anode plate is also attached to the underwater area of the transom.

The purpose of these sacrificial zinc anodes is to attract any destructive electrical currents away from the metallic underwater components, thereby preventing their eventual corrosion and allowing the corrosion of the sacrificial zinc anodes. The sacrificial zinc anodes are considerably easier and cheaper to replace and their deterioration will not affect the performance of your yacht, as would the deterioration of a propeller or rudder.

The Bonding System is a network of wires(color coded green) that are connected to all metallic underwater components within the interior of the hull, which makes them one unit for electrical current purposes. This network of wires is then attached to the sacrificial zinc anode located on the transom, which allows corrosion of the anode, but prevents corrosion of the underwater components.

General maintenance of the Bonding System consists of yearly replacement of the sacrificial zinc anode located on the transom and all other zinc anodes located on the propeller shafts, rudders, etc. and should be completed during the spring launch procedure. The anodes may require more frequent replacement, depending on your docking location and the length of your boating season. If possible, check the anodes for excessive corrosion midway through your boating season. If excessive corrosion is noted, have your dealer or a competent technician replace the sacrificial zinc anodes. Periodically check the wiring connections to make sure they are tight and

free of corrosion. Tighten and clean connections as necessary.

NOTE: Silverton recommends placing sacrificial zinc anodes on the following components:

- Propeller shafts
- Rudders
- Trim Tabs

IMPORTANT: DO NOT paint any of the sacrificial zinc anodes as it will retard the flow of electric current through them and render them ineffective.

CARBON MONOXIDE (CO) DETECTOR SYSTEM

DANGER

Carbon Monoxide Gas (CO) is colorless, odorless and tasteless. It is highly poisonous, endangering lives even at very low levels of concentration. Mild exposure causes headaches and fatigue, often resembling "flu-like" symptoms. Medium exposure causes severe headaches, drowsiness, nausea and rapid heart rate. Extreme exposure results in unconsciousness, convulsions, cardiorespiratory failure and death. If Carbon Monoxide Gas (CO) is detected in your yacht, immediately contact a qualified technician to locate and repair the source of the poisonous gas. DO NOT enter your yacht until repairs have been made and the Carbon Monoxide Gas (CO) is lowered to an acceptable level. Refer to the Carbon Monoxide Safety section on page 38.

Your **410 SB** is equipped with three(3) *SAFE-T-ALERT* Carbon Monoxide Gas (CO) detector monitors, which are located within the interior as follows

- Forward Stateroom

- Salon

- Mid Stateroom

Each CO monitor is operated by DC electrical power and they are connected directly to the batteries. It is not necessary for the battery switch to be turned ON for them to operate. The fuses for the monitors are located behind the AC/DC Panel.

Operation of the CO monitors requires a ten (10) minute warm-up period, during which time, the sensor element is cleaned and the unit is stabilized. During this ten minute warm-up period, the GREEN indicator light will flash ON and OFF. The GREEN indicator light will remain ON after the completion of the warm-up period until the presence of Carbon Monoxide Gas is detected. If the GREEN indicator light does not illuminate, check all wiring connections and clean and tighten, if necessary. If the GREEN indicator light still fails to illuminate, contact your Silverton dealer for inspection and replacement. DO NOT attempt to make any repairs to the unit(s) yourself.
When Carbon Monoxide Gas is detected by the CO monitor, the following visual and audible signals will appear:

Low CO Warning
YELLOW flashing indicator light accompanied by a "BEEP" sound every five (5) minutes. The YELLOW indicator light will continue to flash until the presence of CO has lowered to an acceptable level. If the CO level has not been lowered to an

acceptable level, an alarm will sound in approximately fifteen(15) minutes. Contact a qualified technician to locate and repair the source of the Carbon Monoxide Gas and DO NOT enter your yacht until repairs have been made and the CO has been brought to an acceptable level.

CO Alarm

RED flashing indicator light accompanied by a pulsed alarm sound. This indicates the presence of a dangerous level of Carbon Monoxide Gas and **IMMEDIATE ACTION IS REQUIRED**. Contact a qualified technician to locate and repair the source of the Carbon Monoxide Gas and DO NOT enter your yacht until repairs have been made and the CO has been brought to an acceptable level. After depressing the "Reset" switch, the RED indicator light will continue to flash and the alarm will produce a "BEEP" sound every thirty (30) seconds until the CO is lowered to the **Low CO Warning** level. If the CO is not lowered to this level, the pulsed alarm will resound in approximately six (6) minutes. The **Low CO Warning** alarm will activate if the Carbon Monoxide Gas is lowered to the low concentration level.

CO Monitor Malfunction

Indicator light flashes alternating RED/GREEN accompanied by a "BEEP" sound every fifteen (15) seconds. Depressing the "Test/Reset" switch will not discontinue the visual and audio signal. See your Silverton dealer for inspection and replacement of the unit(s), if necessary.

Maintenance of your CO monitors is as follows:

✔Test each monitor after removing your yacht from storage, prior to departing on each cruise and on a weekly basis. Refer to the *SAFE-T-ALERT* User's Manual included with your owner's packet for the proper test procedure.

✔Frequently observe the color of the indicator light on each CO monitor and during testing to be certain the light is functioning properly.

✔Vacuum the dust off the CO monitor cover with the brush attachment of your vacuum cleaner at least once a year and more frequently if your yacht is maintained in a dusty climate.

✔Frequently clean the CO monitor cover with a damp cloth to remove all dirt and grease that may accumulate. Dry with a soft, dry cloth.

✔DO NOT spray cleaning agents or waxes directly onto the CO monitor cover.

REFER TO THE *SAFE-T-ALERT* USER'S MANUAL FOR ADDITIONAL TECHNICAL INFORMATION CONCERNING THE USE AND MAINTENANCE OF YOUR CO MONITORS.

ELECTRICAL SYSTEM

This section describes the various components of the Electrical System on your **410 SB.** Also included is a Troubleshooting Guide for your convenience.

Power Systems Operation Procedures:

Batteries

The DC Electrical System obtains its source of power from two(2) batteries, located in the engine compartment. The negative terminal of each battery is attached to a grounding stud on each engine. This is known as a "negative ground system" and is the approved system for marine DC electrical systems. The battery wiring system has two color-coded wires. The yellow wire is the ground(negative) wire and the red wire is the positive("hot") wire. Both batteries are connected to a battery switch(See photograph below). The Battery Switches are located in a starboard cabinet in the midships passageway.The positions on the battery switch are ON and OFF. The switch must be turned to the ON position to supply power to the DC electrical system. When the battery switch is turned to the OFF position, power is disconnected to the DC electrical system.

NOTE: The bilge pumps, carbon monoxide detectors and radio memory are NOT disconnected from their power source when the battery switch is turned to the OFF position. These accessories are connected directly to the battery and do not require a switch for operation.

Battery Charging System

The batteries maintain their charge from alternators, which are located on each engine. The alternators supply charging power to the batteries only while the engines are running. Your **410 SB** also has a converter, located in the bilge, which converts 120 volt AC electrical power from either the generator or shore power into 12 volt DC electrical power.

DC Main Panel

Turn ON the two(2) Main Battery Switches on the AC/DC Panel. The two switches are the two top switches on the panel.

Shore Power

Follow the procedures below to connect shore power to your yacht:

- Turn OFF all 120 volt circuit breakers at the main distribution panel. Shut down the generator if it is in operation.

WARNING

Using a damaged or improper cord for shore power connection can cause electrical shock and serious personal injury. Use a cord specifically designed for shore power connection. DO NOT use a household extension cord.

- Connect the female end of the shore power cord to the yacht's inlet recepticle. Be certain the lock ring is tightly secured.

WARNING

DO NOT connect the shore power cord to the dockside electrical source first. You can accidentally drop the cord into the water which may result in electrical shock and serious personal injury.

- Connect the Shore Power Cable to power supply. When connecting the shore power cable to the dockside outlet, be certain the cable has sufficient slack to prevent stretching during tidal changes.

- Turn ON main breaker switch on the shore power side of the main distribution panel.The shore power side of the distribution panel should now be operable.

If there is no power to the electrical distribution panel, check the following:

- Breaker switch at dockside power supply.

- Main breaker switch on shore power side of distribution panel.

Follow the procedures below to disconnect shore power from your yacht:

- Turn OFF all 120 volt circuit breakers on the main distribution panel.

- Turn OFF the dockside circuit breaker switch.

- Disconnect the shore power cord from the dockside outlet.

- Disconnect the shore power cord from the yacht's inlet recepticle.

- Store your shore power cable in a safe, dry location.

STARTING THE GENERATOR

- Start the generator (Refer to "Starting Instructions" section in the Generator Manual included with your owner's packet). Be sure that it is operating properly.

- Turn off all 120 VAC breakers.

- Turn off the shore power breaker.

- Raise the slide bar switch on the electrical distribution panel and turn the generator breaker switch to the ON position to power the AC electrical distribution panel.

12 VOLT DC ELECTRICAL DISTRIBUTION PANEL

The following 12 volt DC breaker switches and their purpose are described below in the order in which they appear on the main electrical distribution panel:

DC Amperage Meter (Battery #1): Displays the amperage draw on Battery #1.

DC Volt Meter (Battery #1): Displays the voltage draw on Battery #1.

DC Amperage Meter (Battery #2): Displays the amperage draw on Battery #2.

DC Volt Meter (Battery #2): Displays the voltage draw on Battery #2.

DC Main #1: Supplies 12 volt DC power from Battery #1 to all breaker switches on the DC side of the electrical distribution panel.

DC Main #2: Supplies 12 volt DC power from Battery #2 to all breaker switches on the DC side of the electrical distribution panel.

Cabin Lights Salon: Supplies power to the cabin lights in the salon and galley.

Cabin Lights Forward: Supplies power to the cabin lights in the forward stateroom and forward head.

Cabin Lights Galley: Supplies power to the cabin lights in the Galley.

Courtesy Lights: Supplies power to all courtesy lights throughout the yacht.

Forward Toilet: Supplies power to the forward toilet.

Fresh Water: Supplies power to the fresh water pump.

Refrigerator: Supplies DC power to the refrigerator.

Shore Retrieve:

Macerator: Supplies power to the macerator pump.

Engine Room Lights: Supplies power to the engine room lights.

Saltwater Washdown:

Forward Shower Pump: Supplies power to the forward shower sump pump.

Oil Changer:

Spare(3): Supplies power to additional accessories.

Bilge Pump Fuses and Breaker Switches

Forward Bilge Auto: Fuses the forward bilge pump automatic switch.

Forward Bilge Manual: Supplies power to the forward bilge pump when manually operated.

Mid Bilge Auto: Fuses the mid bilge pump automatic switch.

Mid Bilge Manual: Supplies power to the mid bilge pump when manually operated.

Aft Bilge Auto: Fuses the aft bilge pump automatic switch.

Aft Bilge Manual: Supplies power to the aft bilge pump when operated manually.

WARNING

Fuel fumes in the engine compartment can explode. Before working on any electrical wiring, ventilate the engine compartment and disconnect the batteries to prevent sparking.

CAUTION

NEVER reset a breaker switch which has tripped automatically without first locating and correcting the problem. The electrical system and devices may be damaged.

CAUTION

Alterations or extensions to the electrical system can cause electrical shock or fire. ONLY competent marine electricians should make system changes according to U.S. Coast Guard regulations.

240 VOLT AC ELECTRICAL DISTRIBUTION PANEL

The AC electrical system is a three-wire grounded system powered by either the generator (if so equipped) or shore power. There is a “ground fault interruption circuit” (GFIC) that protects all outlets. This system prevents accidental electrical shock. If power is lost to an outlet, reset the breaker switch at the GFIC outlet.

CAUTION

If you are unable to reset the GFIC breaker switch, contact your Silverton dealer or a competent marine electrician for inspection and repair. Failure to do so may result in a fire or damage to the electrical system.

The AC electrical system is supplied with 240 volts of power upon entry to the main electrical distribution panel, which then is separated into two (2) legs of 120 volts each.

The following breaker switches and their function are described below in the order in which they appear on the main electrical distribution panel:

AC Amperage Gauge: Displays amperage draw on AC circuit.

Generator Start/Stop Switch: Starts and stops the generator.

AC Volt Gauge: Displays voltage draw on AC circuit.

Line 1/Line 2 Amperage Switch: Allows amperage gauge to display draw on either Line 1 or Line 2 as selected. **NOTE:** Line 1 is considered the left side of the AC Electrical Panel. Line 2 is considered the right side of the AC Electrical Panel.

Generator Blower: Supplies power to the generator compartment ventilation blower motor.

Line 1/Line 2 Volt Switch: Allows volt gauge to display draw on either Line 1 or Line 2 as selected.

Shore Power (3 Switches): Supplies the AC Electrical Panel with power from a dockside source.

Generator (3 Switches): Supplies the AC Electrical Panel with power from the generator.

Converter: Supplies power to the converter, which converts DC power to AC power.

Galley Outlets: Supplies power to the outlets in the Galley.

Forward Outlets: Supplies power to the outlets in the forward cabin and forward head.

Exterior Outlets: Supplies power to the outlets found on the exterior area of the yacht.

Salon Outlets: Supplies power to the outlets in the Salon.

Microwave: Supplies power to the microwave oven outlet.

Water Heater: Supplies power to the water heater.

CAUTION

Be certain the water heater is full of water and does not contain air. If the water heater is not full of water, damage to the heating elements may result when electrical power is turned ON to the unit.

Forward Air Conditioner: Supplies power to the forward air conditioner.

Mid Air Conditioner: Supplies power to the mid air conditioner (if equipped with the optional 37,000 BTU system).

Icemaker: Supplies power to the icemaker unit.

Air Pump: Supplies power to the air conditioner raw water pump.

Vacuum System: Supplies power to the optional central vacuum cleaner system.

Range: Supplies power to the stove/oven combination.

Aft Air Conditioner: Supplies power to the aft air conditioner.

Spare(4): Supplies power to additional AC accessories.

WARNING

Fuel fumes in the engine compartment can explode. Before working on any electrical wiring, ventilate the engine compartment and disconnect the batteries to prevent sparking.

CAUTION

NEVER reset a breaker switch which has tripped automatically without first locating and correcting the problem. The electrical system and devices may be damaged.

CAUTION

Alterations or extensions to the electrical system can cause electrical shock or fire. ONLY competent marine electricians should make system changes according to U.S. Coast Guard regulations.

Electrical Accessories

You may have purchased optional electronic accessories, such as a VHF radio, GPS system, or autohelm system, with your **410 SB**. These units are controlled by the swithches marked ACC. located on the helm switch panel(shown below). These accessories are powered through the elecxtrical panel. The switches used to control them are marked “SPARE”. The breakers for these items are located in the ships service box, down in the engine room.

REFER TO THE INDIVIDUAL ELECTRONIC EQUIPMENT MANUALS INCLUDED WITH YOUR OWNER’S PACKET FOR SPECIFIC INFORMATION ON THE OPERATION OF YOUR ELECTRONIC ACCESSORIES.

TROUBLESHOOTING GUIDE

AC ELECTRICAL SYSTEM

PROBLEM	CAUSE	SOLUTION
No 120 Volt Power	Main breaker(s) in engine compartment tripped or OFF on generator.	Turn breakers ON or reset.
	Breaker(s) at AC Control Center tripped or OFF.	Turn breakers ON or reset.
	Shore power breaker tripped.	Turn Breakers ON or reset.
	Shore power cord not connected.	Check cord; plug in, if necessary.
	Loose or disconnected wire.	Tighten connections. See your dealer.
No power to 120 volt devices.	Breaker(s) at AC Control Center tripped or OFF.	Turn breakers ON or reset.
	Shore power cord not connected.	Check cord; plug in, if necessary.
	Loose or disconnected wire.	Tighten connections. See your dealer.
Inadequate power to 120 volt devices (generator running)	Electrical demand greater than generator output.	Switch OFF devices and equipment not needed.
		Increase generator RPM. Refer Generator Manual.
		Use shore power AC line, if available.

TROUBLESHOOTING GUIDE

AC ELECTRICAL SYSTEM

PROBLEM	CAUSE	SOLUTION
Continuous tripping of main.	Cause of problem not determined.	Determine cause and correct problem before resetting breaker.
		See your dealer if problem persists.
No power at AC outlets.	Outlet breakers in AC Control Center OFF.	Switch breakers to ON.
	Ground Fault interrupter tripped.	Reset button on outlet and test.

TROUBLESHOOTING GUIDE

DC ELECTRICAL SYSTEM

PROBLEM	CAUSE	SOLUTION
12 Volt DC equipment not operating	Battery Selector switch turned OFF.	Check Battery Selector Switches to ensure they are turned ON.
	Main breaker at DC Control center OFF.	Switch Breaker to ON.
	Weak or Dead Battery.	Change Battery selector switch position;recharge battery.
	Main Breaker at battery switch has been tripped.	Reset Breaker.
Battery not charging(engine running)	Engine Alternator Belt Loose.	Tighten Belt.
Battery not holding a charge	Defective Battery.	Replace Battery.
12 Volt Device not working	Circuit Breaker for device is OFF.	Switch Breaker to ON.
	Weak or Dead Battery.	Change Battery selector switch position; Recharge Battery.
	Faulty Electrical Connection.	Check 12 volt DC Connections. Tighten or repair as needed.
Cabin Lights not working(off or dim)	CABIN LIGHTS breaker OFF.	Switch breaker to ON.
	Weak or Dead Battery.	Recharge or replace battery.
	Light Bulb burned out.	Replace bulb.

ENTERTAINMENT SYSTEM

Your 410 SB is equiped with a JVC Reciever and a 5 disc CD player. The two units are shown below. The units are installed in the Salon.

Available as an option is the 20" TV and VCR unit that can be installed in the Salon. These units are shown below with the reciever and the 5 disc CD player.

Also available as an option is the 13" TV/VCR combination unit. This unit is designed to be installed in the Forward Stateroom. The unit is shown below.

The 9" TV/VCR Combination unit is designed to be installed in the Mid Stateroom. Shown below is the unit installed.

AUTOMATIC FIRE EXTINGUISHER SYSTEM

Your **410 SB** is equipped with a *SEA-FIRE* Model BB-400 **Automatic Fire Extinguisher System**, which is permanently mounted on the forward bulkhead of the engine compartment(See **Mechanical Layout** in the Schematics Section of this manual, which illustrates the location of this fire extinguishing system).

The **Automatic Fire Extinguisher System(AFE)** is designed for use in enclosed compartments that are not normally occupied by passengers and are not normally subject to weather or water exposure. The *SEA-FIRE* Model BB-400 automatic fire extinguisher is designed to extinguish Class B fires(flammable liquids) and Class C fires(electrical), which would be the type that would normally occur within the confined area of the engine/generator compartment.
NOTE: The *SEA-FIRE* Model BB-400 automatic fire extinguisher system DOES NOT replace the need for additional portable-type fire extinguishers required by the United States Coast Guard.

The *SEA-FIRE* Model BB-400 automatic fire extinguisher is activated when the engine/generator compartment reaches 165° Fahrenheit/74° Celsius. The system releases HALON 1301 into the compartment, which immediately converts to a safe, odorless and electrically nonconductive vapor that will not harm the components in the engine/generator compartment. In contrast to other fire extinguishing materials, HALON 1301 leaves no residue, assisting in the eventual cleaning of the compartment.

The *SEA-FIRE* Model BB-400 automatic fire extinguishing system on your **410 SB** is equipped with a GREEN indicator light, located on the helm switch panel (See **Helm Switch Panel Layout** in the Schematics Section, which illustrates the location of the Halon System indicator light).

The purpose of this indicator light is to alert the operator of the charge/discharge status of the **Automatic Fire Extinguishing System**. The indicator light will illuminate when the ignition switch is turned to the ON position if the system is fully charged. If the indicator light fails to illuminate after turning on the ignition switch, carefully examine the exterior of the engine/generator compartment for evidence of a fire that may have discharged the system by looking for signs of "scorching" and by your sense of smell.

WARNING

If the Green indicator light does not illuminate after turning on the ignition switch or if it turns off at any time during operation of your yacht, either at dockside or while underway, DO NOT open the engine compartment for at least ten(10) minutes. Opening the engine compartment immediately will allow air to enter and may cause a fire "flashback", possibly resulting in serious injury or death. The sudden rush of air into the engine compartment may also render the automatic fire extinguishing system ineffective.

If you do not observe or smell any evidence of a fire and you have waited the recommended ten(10) minutes, open your engine compartment and examine the Halon 1301 container actuator to determine if it has been discharged. Refer to the *SEA-FIRE* Manual, which illustrates the charged and discharged positions of the actuator. If the system has been discharged or appears charged, but the indicator light does not illuminate, see your Silverton dealer for further inspection and repair, if necessary.
In the event of an engine/generator compartment fire, the following steps should be taken to avoid the likelihood of personal injury or death and to minimize property damage:

-Remain calm and avoid panic.

-Immediately turn off all electrical power, including the engine ignition and the engine compartment ventilation blowers. NOTE: Do NOT turn off power to your VHF Radio.

-DO NOT open the engine/generator Compartment for at least ten(10) minutes to allow the Halon vapor to extinguish the fire.

-Remove your portable fire extinguisher from its mounting bracket and prepare it for use, if neccessary.

-Instruct all passengers to put on their Personal Flotation Devices(PFD's) and move away from the source of the fire.

-Contact the United States Coast Guard on your VHF radio and advise of your situation and location. Maintain radio contact until the crises has ended and assistance has arrived.

-If the fire is successfully extinguished, examine the engine compartment componenets for damage. DO NOT start your engines if any damage is noted. Request towing assistance to a safe harbor and contact your silverton Dealer for a thorough inspection and repairs.

-When replacing parts of the fire fighting installation only matching components shall be used, bearing the same designatiion or being equivalent in their technical and fire resistant capabiities.

REFER to the SEA-FIRE Manual for a detailed description of your AUTOMATIC FIRE EXTINGUISHER SYSTEM. Be certain to complete the Sea-Fire Warranty card and mail to the manufacturer within 10 days of your purchase.

PORTABLE FIRE EXTINGUISHER SYSTEM

As a yacht owner or operator, you have the responsibility of having the required quantity of United States Coast Guard approved portable fire extinguishers aboard at all times, except during storage. The portable fire extinguishers must be operational and of the proper classification.

The classification of portable fire extinguishers and their appropriate use is as follows:

CLASS "A"
"Fires in ordinary combustible materials, such as wood, paper and cloth, where the quenching-cooling effect of quantities of water or high water content solution cools the burning material below the ignition temperature."

CLASS "B"
"Fires in flammable petroleum products or other flammable liquids, greases, etc., where the blanketing-smothering effect of oxygen-excluding media is most effective."

CLASS "C"
"Fires involving electrical equipment where the electrical conductivity of the extinguishing media is the first consideration."

Your **410 SB** is equipped with two(2) Class B/C portable, handheld fire extinguishers. Class B/C fire extinguishers will effectively fight fires of the Class "B" and Class "C" type. The Class B/C portable fire extinguisher contains pressurized dry powder, which when released, will leave a powder residue that smothers the fire and removes its source of oxygen. Once the source of oxygen is removed, the fire cannot continue to burn and it will be extinguished.

The fire extinguishers shipped with your **410 SB** should be mounted in a readily accessible location away from the engine compartment, but in a relative position to potential fire hazards, such as the Galley. The fire extinguishers should be mounted within plain view and all passengers on board should be familiar with their location and operation before departing your dock.
Maintenance of your portable fire extinguishers should consist of periodic cleaning of the canisters and making certain they are easily seen and readily accessible. Periodically examine the gauge on each fire extinguisher to be sure they are fully charged. If the gauge indicates the fire extinguisher is not fully charged, contact your Silverton dealer for replacement. DO NOT test the charge of your portable fire extinguishers by operation of them; it will discharge them unnecessarily.

Refer to the operating instructions displayed on the fire extinguisher canisters for a detailed description of their operation and use.

FRESH WATER SYSTEM

The purpose of the **Fresh Water System** is to provide a supply of pressurized potable water to the Galley, Heads and Transom Exterior Shower on demand and as needed. Your **410 SB** has two(2) separate systems that are independent of each other and they are identified as follows:

- **Fresh Water Pump System**
- **Dockside Water Supply System**

Fresh Water Pump System

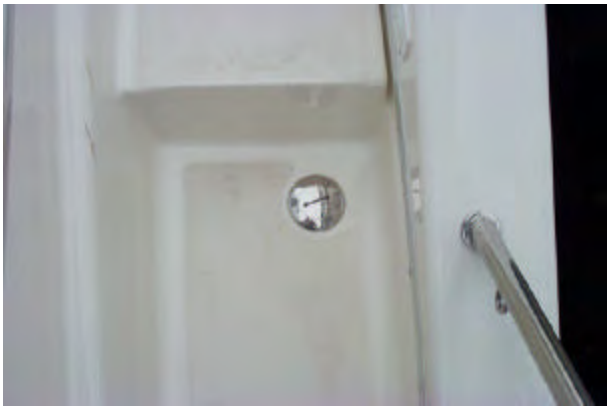
The Fresh Water Pump System on your **410 SB** consists of the following components:

Fresh Water Tanks(200 gallon capacity):

The fresh water tanks are located on the outboard sides of the engine room of your 410 SB. There are 2 tanks(100 gallons each). The photo below shows the starboard fresh water tank. See **Mechanical Layout** on Page 149 and 150, which illustrates the location of the fresh water tanks. They are filled through a fill fitting that is marked "WATER" on the fill cap, which is located on the port side of the bridge access steps(see photo below that shows the fresh water fill). See **Deck Layout** on Page 147, which illustrates the location of the fresh water tank fill fitting).

WARNING

Fill the fresh water tank ONLY with potable water that is safe for drinking. DO NOT fill with water that may be of questionable quality as serious illness or death may occur.



Fresh Water Pump:

The fresh water pump is located on the forward wall of the engine room(See **Mechanical Layout** in the Schematics Section of this manual, which illustrates the location of the fresh water pump). The fresh water pump operates on DC electrical power controlled by a breaker switch located on the AC/DC Electrical Panel(See **AC/DC Electrical Panel Layout** in the Schematics Section of this manual, which illustrates the location of the fresh water pump breaker switch). The fresh water pump is equipped with an automatic pressure switch and when it is supplied with electrical power, it will operate until the entire fresh water system is pressurized to a preset level. Once the required pressure is obtained, the fresh water pump will automatically shut off. The fresh water system should maintain the preset level of water pressure until one of the faucet or shower valves is opened. When the required pressure is lowered below the preset level, the fresh water pump will automatically return to operation.

Fresh Water Filter:

The water pumped from the fresh water tank flows through a filter located on the suction side of the fresh water pump. Its purpose is to remove impurities that may be present in the fresh water system prior to its consumption. The filter is easily removed from the fresh water pump and should be

cleaned on a regular basis (See photograph below, which illustrates the location of the **Fresh Water Filter**).

Fresh Water Lines (Cold Water and Hot Water):
The fresh water lines carry the water from the fresh water tanks, the water heater, and the various faucets located in the Galley and Head areas of your **410 SB**. They are constructed of polybutylene plastic material and are 1/2 inch inside diameter. The COLD WATER lines have pale blue manufacturer's lettering and the HOT WATER lines have pale red manufacturer's lettering for identification purposes. The fresh water lines require minimal maintenance, but they should be visually examined on a regular basis for any leaks, chafing or cracking. Tighten any loose connections as necessary. See your Silverton dealer for inspection of any suspected defective fresh water lines and their replacement, if necessary.

Dockside Water Supply System

Your **410 SB** is equipped with a dockside water inlet located in the transom storage compartment(See photograph below, which illustrates the location of the dockside water inlet).

This system operates independently of the Fresh Water Pump System and simply depends on its connection to a suitable garden-type water hose for its supply of fresh water. When the water supply is connected to the water inlet and turned ON, the system is automatically pressurized without the need for the fresh water pump. The water entering this system will not fill the fresh water tank; a check valve, located in the pressure line of the fresh water pump, prevents the water from entering the fresh water tank. Be sure to turn OFF the fresh water pump at the AC/DC Panel when connected to the shore water supply.

WARNING

Connect this system ONLY to a potable water system that is safe for drinking. DO NOT use water that may be of questionable quality as serious illness or death may occur.

When you are connecting your system to a dockside water supply, be certain to examine all connections and water lines for any leaks. If any leaks are noted, turn OFF the water supply immediately and make the necessary repairs before you again turn ON the water supply. Remove any trapped air from the water system by opening all faucets until the air is exhausted and there is a steady flow of water. Close the faucets after the air is removed.

CAUTION

Always turn OFF the dockside water supply source when leaving your yacht unattended. A leak in the system could result in flooding and may cause your yacht to sink.

Refer to the WINTERIZATION AND STORAGE section of this Owner's Manual for the proper preparation and maintenance of your FRESH WATER SYSTEM prior to seasonal storage of your yacht.

FUEL SYSTEM

WARNING

Fuel, especially gasoline, is extremely flamable. Failure to follow these recommendations and the rules of good common sense could result in fire or explosion, which could cause personal injury or death.

The purpose of the Fuel System is to maintain the necessary supply of fuel to the engines and generator upon demand and as needed. The fuel system on your **410 SB** is comprised of the following components, which will be described separately:

- Fuel Tanks
- Fuel Tank Fills and Vents
- Fuel Tank Grounding System
- Fuel Distribution Hoses
- Fuel Supply Valves
- Fuel Filtration
- Generator Fuel Selector Valve
- Fuel Gauge and Selector Switch

Fuel Tanks

Your **410 SB** is equipped with one(1) fuel tank, having a capacity of 449 gallons. The fuel tank is located within the cockpit access hatch. See **Mechanical Layout** in the Schematics Section of this manual, which illustrates the location of the fuel tank. The fuel tank supplies fuel to the Port and Starboard engines, and the generator. See photograph below which shows the fuel tank on the 410 SB.

The fuel tank is equipped with a fuel level sending unit, which provides an electrical signal to the fuel gauge to indicate the fuel level(See **Helm Switch Panel Layout** in the Schematics Section of this manual, which illustrates the location of the **Fuel Gauge**).

As fuel tanks will corrode, they should be inspected for signs of leaks, corrosion, and pitting each time you board your boat. Corrosion normally appears as a white chalky, discolored or flaky appearance on the surface of the tank. Sometimes it also appears as pitting or small pockets of missing aluminum. Another indication of corrosion could be bubbles on the paint that coats the tank(if painted). If any one of theses conditions is present, have a qualified technician immediately inspect the tank(s). If a leak is found in the tank, immediately turn off battery switches, disconnect shore power and disable any possible source of ignition. Do not start your engines, the generator or any other device that could create a spark. Notify your Silverton Dealer or Silverton's Customer Service Department immediately. NEVER operate your boat if a fuel leak is present!

WARNING

NEVER operate your boat if a fuel leak is present!

Fuel Tank Fill and Vent

The fuel tank is filled through the Fuel Fill Fitting and the cap is marked GAS or DIESEL, depending on the type of engines that power your **410 SB.**

The photo below shows the fuel fill and is located on the port side of the cockpit. (See **Deck Layout** in the Schematics Section of this manual, which illustrates the location of the fuel tank fill fittings).

CAUTION

Using the wrong type of fuel will result in severe damage to the engines.

The fuel tank has a hull vent fitting. This fitting is located on the Port side of the hull(See **Thru-hull Layout-Port and Starboard** in the Schematics Section of this manual, which illustrates the location of the fuel tank vent). The vent fitting is connected to the fuel tank with the fuel vent hose. This vent allows air to pass through when fueling and when the engines are drawing fuel from the tank.

The fuel fill and fuel vent hoses, fittings and connections should be inspected for leaks and signs of dry rot or swelling at least once a year. If any of these conditions are present, have an authorized Silverton Service Technician inspect the entire fuel system immediately. If a leak is found, turn OFF the battery switches, disconnect shore power(See **Shore Power - Connecting and Disconnecting** in the System Operations Section of this manual, which explains the proper and safe method for disconnecting your shore power) and disable any possible source of ignition. Contact your Silverton dealer or Silverton Customer Service immediately.

WARNING

Leaking fuel is a fire and explosion hazard; personal injury or death could occur.

If any fuel hoses are in need of replacement, be certain that ONLY USCG TYPE A1 or A2 are used.

WARNING

The use of any hose other than USCG TYPE A1 or A2 could result in fuel leakage. Leaking fuel is a fire and explosion hazard; personal injury or death could occur.

Fuel Tank Grounding System

The fuel tank and fuel fill on your **410 SB** are electrically grounded(or bonded) to the ground buss of the bonding system. Without a proper ground, stratic electricity can create a spark resulting in a fire or explosion. Check fuel tanks and fuel fills for proper grounding. Wires are generally easy to replace when necessary. Proper grounding(bonding) is critical in maintaining a safe fuel system.

WARNING

While fueling, a spark caused by static electricity could result in fire or explosion, which could cause personal injury or death.

Fuel Distribution Hoses

Each engine has a fuel supply hose that runs from the pickup tube in the fuel tank to the engine. Also, each engine has a fuel return hose that runs from the engine to the fuel tank. The generator has a fuel supply hose that runs to the fuel tank. If your **410 SB** is diesel powered, there is also a fuel return hose routed similiar to the supply hose.
The fuel distribution supply and return hoses, fittings and connections should be inspected often for leaks and signs of wear, dry rot, cracking, chafing or swelling, A good way to examine the fuel hoses is

to run your hand along the length of the hose including the fittings. Small leaks will be revealed as wet spots on your hand. If any evidence of hose deterioration is present, have a qualified technician replace all of the hoses with USCG TYPE A1 hoses immediately. If a leak is found, turn OFF battery switches, disconnect shore power and disable any possible source of ignition. Do not start your engines, the generator or any devices that could create a spark. Contact your Dealer or Customer Service Department immediately. If hoses need to be replaced, make sure that only USCG TYPE A1 are used. TYPE A2 is not acceptable for fuel distribution.

Fuel Supply Valves

If your **410 SB** is powered by gasoline engines, it is equipped with an anti-siphon valves, located on each fuel supply hose at its connection to the fuel tank pickup tube. The purpose of the anti-siphon valve is to immediately stop the flow of fuel from the fuel tank in the event of a break in the fuel supply hose. The anti-siphon valves are automatic and do not require manual operation.

Fuel Filtration

The fuel that is supplied to the engines and generator(if so equipped) may contain impurities found in the fuel tanks or contained in the fuel from your supplier. If these impurities are not removed prior to entering the engines/generator, performance may be seriously affected. Removal of the fuel impurities is accomplished by external fuel filters, which are located within the fuel supply line.Your fuel filters are your primary defense against this contamination and water in the fuel. They need to be changed at least as often as the operator's engine manual specifies. The fuel filters should be checked for leaks each time they are changed and as part of the inspections listed above.

If your **410 SB** is equipped with diesel engines, each engine has a separate fuel filter, located on the inboard side of the engine(See photograph below, which illustrates the location of the fuel filter on diesel engine equipped yachts).

If your **410 SB** is equipped with gasoline engines, each engine has its own separate fuel filter.

If your **410 SB** is equipped with a generator, a remote fuel filter with a fuel shut-off valve is located in the main generator fuel supply line, separate from the engine fuel supply lines.

An authorized Silverton Service Technician should replace all fuel filters annually prior to spring launch. They may need more frequent replacement if you notice poor engine/generator performance due to contaminated fuel.

Fuel Gauge

The purpose of the **Fuel Gauge** is to allow you to constantly monitor the fuel level in the fuel tank. Your fuel gauge is read from a sensor in the tank. If the boat is up and running, an accurate reading is not always possible. Be sure to check the level at rest and inspect the sender for proper electrical connections and leaks at the fuel tank. If you need

assistance, please feel free to call the Customer Service Hotline at 1-800-882-9266. The fuel gauge on your **410 SB** is located at the helm station on the starboard side of the helm gauge panel(See **Helm Gauge Panel Layout** in the Schematic Section of this manual, which illustrates the location of the Fuel Gauge).

Fueling Your 410 Sport Bridge

Fuel Quality

Refer to your **Engine Manual**, included with your owner's packet, for specific fuel requirements for your engine, i.e., recommended octane level.

Fuel Additives

Refer to your **Engine Manual** for recommendations concerning fuel additives.

Refer to the **Winterization and Storage Section** of this Owner's Manual concerning the use of fuel stabilizers. Always follow the manufacturer's recommendation when using fuel additives or stabilizers.

General Guidelines For Fueling Your Yacht

Improper fueling procedures can cause boat fires and explosions. It is imperative that the following procedures be followed every time you fuel your

WARNING

Leaking fuel is a fire and explosion hazard; personal injury or death could occur.

✔Before fueling, check the fuel system for leaks and repair or replace any components prior to fueling or starting your engines, generator or any electrical device.

✔If possible, fuel your boat during daylight hours. Check fuel vents to assure the fuel tanks are not over-filled. Fuel spills are easier to detect when visibility is good.

✔In very warm weather, DO NOT "top off" the fuel tanks, as the fuel will expand as it heats up and spill out the vents.

✔Make sure you are using the correct fuel type required by the engine manufacturer.

CAUTION

Using the wrong type of fuel will result in severe damage to the engines.

✔Be sure to turn off all engines, the generator and all devices that could create a spark prior to fueling. Battery switches should also be shut off to prevent sparks from any electrical device.

✔Disconnect shore power.

✔Extinguish all smoking materials and any other items that may create a spark.

✔Completely close all doors, ports, hatchesand windows and ask guests to leave the boat during fueling.

✔Before fueling, touch the fuel nozzle to the fuel fill cap to discharge any static electricity. Open the designated fill pipe, insert the nozzle while maintaining contact with the side of the fill pipe.

✔After pumping several gallons, STOP. Inspect engine and tank compartments for any signs of leakage.

✔DO NOT continue fueling if leaks or the smell of fuel are present. Contact a qualified technician to inspect your boat and repair it before continuing to fuel.

✔If no leaks are noted, continue fueling allowing for expansion in warmer weather. Slow the flow as approaching full to avoid overfow.

✔Once full, remove nozzle, replace fill cover tightly and clean up any spills.

✔After fueling has been completed, open all hatches, doors and compartments. Visually check all fuel fittings, lines and tanks for leakage, including engine and generator fuel lines. Immediately notify a qualified technician of any problems and correct them before proceeding.

✔Turn main battery switches on to operate bilge blower. Ventilate all bilges for at least five minutes.

✔Make a final inspection of the engine and/or generator space and smell for fumes. If they are present, open all doors and ports and evacuate the boat. Notify the Dockmaster and request a qualified technician to correct the problem. If it is clear, follow the recommended engine starting procedure. When storing your boat for extended periods, it is preferable to top off the tanks and add fuel conditioner and or stabilizer. Please refer to the engine owner's manual for recommendations.

FUEL SYSTEM MAINTENANCE

Maintenance of your fuel system must also be a high priority. As boats get older, maintenance may be done by prople with varying degrees of expertise. Materials and methods previously used may also change.

FUEL SAFETY CHECKLIST FOR BOARDING

This fuel safety checklist is designed to be used as a quick reference to minimize the risks associated with fuel hazards. You should refer to this checklist every time you board your yacht. Read your owner's manual so that you have a full understanding of the fuel system on your yacht.

Fuel, especially gasoline is extremely flammable. Failure to follow these recommendations and the rules of good common sense could result in fire or explosion; which could cause personal injury or death.

✔Before approaching your boat, extinguish all smoking materials and make certain there are no other devices on or near your boat that could create a spark and start a fire or cause an explosion.

✔Approach your boat alone to make the initial inspection. Have your guests and crew standby at a safe distance away from your boat.

✔Visually inspect your boat from the dock for any fuel leaks from the deck fills or hull vents and take notice if there is any odor of fuel. Also, check the water surface around your boat for signs of fuel.

✔Once onboard, open the cabin door and sniff at the doorway and then inside the cabin for fuel odor.

✔Open the engine compartment hatch and sniff for fuel odor.

✔Inspect the engine compartment and all bilge compartments for fuel leaks and sniff for fuel odor.

✔If there are any signs of fuel leakage, either visually or by odor, open doors, hatches, and windows and most importantly, do not start the engines, the generator or any other device that could create a spark. Shut off all battery switches. Evacuate the boat and inform the Dock Master. Have a qualified technician determine the source of the leak. **NEVER** operate your boat if a fuel leak is suspected or present!

✔If no signs of a fuel leak are present, board your guests and crew.

✔Run exhaust blowers for five minutes before starting the engines or generator.

✔Always be aware of the hazards associated with fuel and follow all safety and maintenance procedures in this publication, the Safety manual and Chapman"s.

"HAPPY SAFE BOATING"

FROM THE SILVERTON TEAM

GENERATOR SYSTEM _____

When you purchased your **410 SB**, a **Generator System**, manufactured by *Kohler Company* was factory installed at the Silverton plant. If your **410 SB** is equipped with gasoline powered engines, the generator will have an 8.0 kilowatt rating and if equipped with diesel powered engines, the generator will have a 9.0 kilowatt rating. As discussed in the **Fuel System Pages** in the Systems Operation Section of this Owner's Manual, fuel is supplied to the generator from the fuel tank. The **Generator System** is controlled by a breaker switch, located on the AC/DC Electrical Panel (**See AC/DC Electrical Panel** in the Schematics Section of this Owners Manual, which illustrates the location of the breaker switch that controls the **Generator System**). The system START and STOP switch is also located on the AC/DC Electrical Panel as is a slide bar switch that permits you to change from generator electrical power to shore electrical power as desired. The **Generator System** is located in the generator compartment, which is accessed through a floor hatch in the Galley floor (See photograph below, which illustrates the location of the **Generator System** and the generator compartment access hatch).

Operation of the **Generator System** is as follows:

✔Turn ON the Generator System battery switch.

✔Check sea strainer for debris and remove, if noted.

✔Be certain the seawater intake valve that services the generator is in the OPEN position. The valve is open when the handle is parallel to the valve body (See photographs below, which illustrate the location of the generator seawater intake valve and its OPEN and CLOSED positions).

✔Turn ON the breaker located on the generator.

✔Move slide bar switch to generator power mode.

✔Operate generator compartment blower motor for at least five (5) minutes before starting generator and continue to run while operating your yacht below cruising speed.

✔Check for presence of Gasoline ordor in the Bilge.

⚠WARNING

Gasoline vapors in the bilge can cause explosion and fire aboard your yacht.

✔Start the generator (Refer to "Starting Instructions" section in the Generator Manual included with your owner's packet).

✔Depress START switch on AC/DC Electrical Panel until generator starts.

⚠ CAUTION

DO NOT depress START switch for more than thirty(30) seconds as damage to the generator starter motor may result. If the generator does not start within 30 seconds, release the START switch and allow the starter motor to cool for at least sixty(60) seconds before again attempting to start the generator.

To cease operation of the Generator system, depress the STOP switch on the AC/DC Electrical Panel. After the generator stops running, release the STOP switch. Continue to operate the blower motor for several minutes to be certain the generator compartment is completely evacuated of any fuel fumes. Return the slide bar switch to the shore power mode and turn OFF the breaker switch. Turn OFF the Generator System battery switch.

Refer to “Generator” in the Electrical System section of this manual for using the generator output to power the boat.

While operating your Generator system, always be certain there is adequate ventilation in the cabin areas of your yacht to avoid the potential accumulation of Carbon Monoxide Gas(CO). Carbon Monoxide Gas is colorless, odorless and tasteless. It is highly poisonous, endangering lives even at very low levels of concentration. Mild exposure causes headaches and fatigue, often resembling “flu-like” symptoms. Medium exposure causes severe headaches, drowsiness, nausea and rapid heart rate. Extreme exposure results in unconsciousness, convulsions, cardiorespiratory failure and death. If Carbon Monoxide Gas is detected in your yacht, immediately contact a qualified technician to locate and repair the source of the poisonous gas. DO NOT enter your yacht until repairs have been made and the Carbon Monoxide Gas is lowered to an acceptable level. Refer to the Carbon Monoxide Gas(CO) Detector System Section of this Owner’s Manual for additional information and cautions concerning this deadly gas.

Refer to the KOHLER COMPANY Generator Manual included with your owner’s manual for additional technical information concerning the operation and maintenance of your generator system.

HOT WATER SYSTEM _____

Your **410 SB** is equipped with a 10.5 gallon water heater, which is operated on the A/C electrical system. Cold water is supplied to the water heater via the fresh water pump, which is then heated for distribution when desired. Similar to the water heater in your home, there is always a continuous supply of water to maintain a full tank at all times. The water heater in your **410 SB** is a "high recovery" model, meaning the cold water entering the tank is heated very quickly to replace the hot water water as it is used.

Operation of the water heater is as follows:

✔Be certain the water heater is full of water. You can easily check this by turning ON a hot water faucet. If water flows from the faucet, the water heater is full.

⚠ CAUTION

If the water heater is not full of water, damage to the heating elements may result when electrical power is turned ON to the unit.

✔Turn ON the water heater breaker switch, which is located on the AC/DC electrical panel (See ***AC/DC Electrical Panel Layout*** in the Schematics Section of this manual, which illustrates the location of the water heater breaker switch).

NOTE: The water heater will operate on AC electrical current only. You must either plug in your shore power cord or operate your generator (if so equipped) for the water heater to function.

✔Allow sufficient time for the water heater to heat its contained water before using (approximately 1/2 hour).

General maintenance of the Hot Water System is as follows:

✔Inspect all water lines and their connections at regular intervals. Tighten connections as needed. If the water lines appear worn or are not flexible, see your Silverton dealer for replacement.

✔Manually operate the pressure relief valve on the water heater at least once a year (See photograph below, which illustrates the location of the valve).

⚠ WARNING

DO NOT operate the pressure relief valve while the water heater contains hot water. Serious burns or injury could result.

✔Flush out the water heater tank at least once a year, if not used regularly.

✔Refer to the **Winterization and Storage Section** of this Owner's manual for proper preparation for seasonal storage of the water heater.

PROPULSION SYSTEM

Propulsion of your **410 SB** is accomplished by two inboard engines, located within the engine compartment. Depending on the option you chose upon purchase from your Silverton dealer, the engines are either fueled by gasoline or diesel fuel. Each engine transmits its power to a separate transmission, which rotates the attached propeller shaft and the propeller, providing forward or reverse movement of your yacht as selected from the shift control unit located on the Port side of the helm(See photograph below, which illustrates the location of the **Shift Control Unit** and the **Throttle Control Unit**).

The transmissions are counter-rotating. This is defined as when in the forward shift mode and viewing forward from aft, the Port transmission rotates the Port propeller counterclockwise and the Starboard transmission rotates the Starboard propeller clockwise.

Access to the engine compartment in your **410 SB** is provided through two(2) floor hatches.(See photographs below, which illustrate the location of the **Engine Compartment Hatches**).

The engine starting procedure is as follows:

✔Open and inspect the engine compartment. Use your sense of smell to detect the presence of fuel fumes.

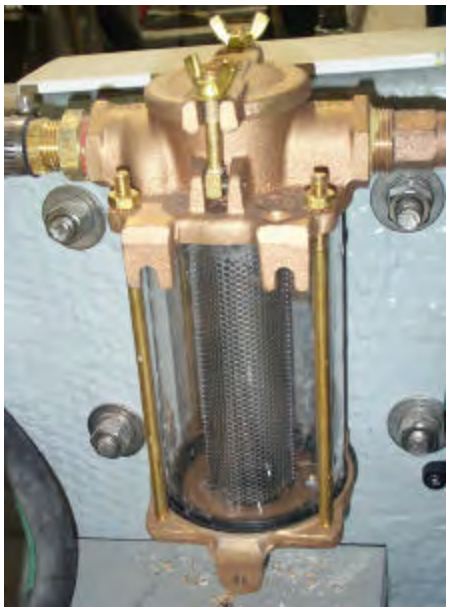
✔Turn battery switch ON.

✔Operate the bilge blower motors for at least five (5) minutes. Check for air flowing out of the bilge exhaust vent(See photograph on Page 22, which illustrates the location of the bilge exhaust vent). If you feel air flowing from the exhaust vent, the bilge blower motor is operating properly.

✔Check the bilge water level. If it appears above normal, turn ON the bilge pump(s) and remove the water. Determine the source of the excess water and repair, if necessary, before starting the engines.

✔Check the bilge for the presence of any oil. Determine the source of the oil and repair, if necessary, before starting the engines.

✔Open both engine seawater intake valves(See **Mechanical Layout** in the Schematics Section of this Manual, which illustrates the location of the engine seawater intake valves). The valves are open when the handles are parallel to the valve body(See photograph below and the adjacent photograph, which illustrates the open and closed positions of the engine seawater intake valves).



✔Visually examine both seawater strainers to ensure they are free of debris. Clean if debris is noted.

✔Check all cooling and lubricating fluids(See photograph below, which illustrates the location of the engine oil "dipstick"). Add engine oil or transmission oil, if needed, but DO NOT overfill.

WARNING

DO NOT remove the cooling system filler cap when the engine is hot. Allow the engine to cool and then remove the pressure cap slowly, allowing the pressure to vent. Hot coolant, under pressure, may discharge violently and result in serious personal injury and burns.

✔Place the transmission shift controls at the helm station in the neutral position. The feel of a "detent" midway between the forward and reverse positions indicates the neutral position.

✔Place the throttle controls in the idle or "down" position.

✔Turn the ignition key to ON, but not to START. The engine alarm buzzer should sound and the automatic fire extinguisher system indicator light should illuminate.

✔Turn the ignition key to START and hold in this position until the engine starts. If the engine starter motor does not operate, the neutral safety switch may be out of adjustment. Slowly and carefully move the transmission shift control lever up and down until the starter motor operates. See your Silverton dealer or a competent technician as soon as possible to obtain the proper adjustment for the neutral safety switch. Release the ignition switch as soon as the engine starts. The engine alarm buzzer should turn OFF when the engine oil pressure reaches normal operating range. The automatic fire extinguisher indicator light should remain illuminated.

CAUTION

If the engine fails to start within thirty(30) seconds, release the ignition switch. Allow the starter motor to cool for at least sixty(60) seconds and then try again to start the engine. Prolonged starting attempts may result in starter motor overheating and damage.

CAUTION

Failure to release the ignition switch from the START position after the engine starts may result in serious damage to the starter motor and/or engine flywheel.

CAUTION

If the engine alarm buzzer DOES NOT turn OFF, turn OFF the engine immediately if the oil pressure gauge displays no, or very low, oil pressure. See your Silverton dealer for inspection and repair, if necessary. No, or very low, oil pressure may cause serious damage to the internal mechanism of your engine(s).

WARNING

If the automatic fire extinguisher indicator light DOES NOT remain illuminated, turn OFF the engine(s) immediately and follow the proper procedure to check for fire aboard your yacht as detailed in the Automatic Fire Extinguisher System Section of this Owner's Manual. A fire aboard your yacht may result in serious personal injury or death.

✔If one of the batteries is "dead" or not sufficiently charged to start your engine, depress the "Parallel Start Switch" simultaneously while turning the ignition switch to START. The parallel start switch draws power from both batteries during the starting procedure and it is located on the helm switch panel(See **Helm Switch Panel Layout** in the Schematics Section of this Manual, which illustrates the location of the parallel start switch). Release both switches immediately after the engine starts.

CAUTION

DO NOT continue to depress the "Parallel Start Switch" after the engine has started. Damage to the alternator(s) may result.

After you have started both engines and determined they are running properly, the "warm-up" procedure should be followed before departing the dock/ mooring. The proper "warm-up" procedure is as follows:

✔Check the oil pressure gauges to be certain each engine has sufficient oil pressure. Gasoline engines should have between 30 and 50 psi(pounds per square inch) and diesel engines should have between 35 and 70 psi. If the oil pressure is lower than the normal operating range, turn OFF the respective engine and contact your Silverton dealer for further inspection and repair, if necessary.

✔Allow the engines to run at the RPM's specified in the Engine Manual until they reach the proper operating temperature. Normal operating temperature for gasoline engines is 140° F with a raw water cooling system and 170° F with a fresh water cooling system. The normal operating temperature for diesel engines is between 170° F and 190° F. If the engine temperature rises significantly above the normal operating range (10° F), turn OFF the respective engine and contact your Silverton dealer for inspection and repair, if necessary.

✔Check the exhaust outlets for the presence of water. Water coming from the exhaust outlets indicates proper water circulation in the engine exhaust system. Water should start coming out of the exhaust outlet shortly after the engine is started. If you do not observe any water coming from the exhaust outlet(s), turn OFF the respective engine and contact your Silverton dealer for inspection and repair.

✔Visually inspect the engine compartment for fuel, oil and water leaks. If leaks are found refer to your Fuel Section of this manual. Also, contact your Silverton dealer for inspection and repair, if necessary.

✔Visually inspect the exhaust system for leaks. If any leak is observed, immediately turn OFF the engines and contact your Silverton dealer for inspection and repair, if necessary.

✔Check the transmission fluid level. The engines should be running at idle speed and at normal operating temperature. The transmission fluid should read FULL on the “dipstick”. If the fluid level is low, add sufficient transmission fluid to raise the level to the FULL mark or slightly lower. DO NOT overfill. If the fluid level is low, check the transmission(s) for leaks and contact your Silverton dealer for repairs if leaks are noted.

Refer to the ENGINE MANUAL included with your owner’s packet for additional technical information concerning maintenance requirements for the specific engines with which your 410 SB is equipped.

Bow Thruster

You may have chosen as an option when you purchased your **410 SB**, a **Bow Thruster System**. The purpose of this system is to aid in maneuvering your yacht in close quarters, such as departing or entering a marina boat slip. The **Bow Thruster** propels the bow of your yacht in a Port or Starboard direction, depending on your selection, which is made from a control panel located at the helm station. The **Bow Thruster** operates on DC electrical power, controlled by a breaker switch, located on the Bilge DC electrical panel .

Refer to the BOW THRUSTER Manual included with your owner’s packet for additional technical information concerning the operation and maintenance of this optional system.

MARINE SANITATION SYSTEM _

All vessels with fixed toilets that are operated on the waterways of the United States and some foreign countries are required to be equipped with an operable Marine Sanitation Device(MSD). The **Marine Sanitation System** in your **410 SB** is a Waste Tank system, defined by the United States Coast Guard as a Type III System. Type III Systems permit operation of the toilet without the direct discharge of untreated waste after every flush. Type III Systems can be discharged at marina dockside pump-out stations or, if in coastal waters, at least three(3) miles offshore.

NOTE: Overboard discharge capability must remain inoperative while within the 3 mile limit. This is accomplished by closing the macerator discharge thru-hull valve(See **Mechanical Layout** in the Schematics Section of this Manual, which illustrates the location of the macerator discharge thru-hull valve).

Your **410 SB** is equipped with one of the following **Marine Sanitation Systems**, depending on the option you chose from your Silverton dealer at the time of purchase:

- *SeaLand* Vacuflush Toilet
- *Jabsco* Quiet-Flush Electric Toilet (Fresh Water)
- *Jabsco* Quiet-Flush Electric Toilet (Raw Water)

SeaLand Vacuflush Toilet

This system is operated by vacuum, combined with a small quantity of water supplied by the pressurized fresh water system (approximately one(1) pint per flush) and is controlled by DC electrical power. Each toilet is equipped with an integral vacuum breaker that prevents a backflow of contaminated water into the potable water supply. Vacuum energy, supplied by the Vacuum Pump, is stored in a Vacuum Tank and is monitored to maintain a certain level. The Vacuum Pump is controlled by an electrical breaker switch, located on the AC/DC Electrical Panel (See **AC/DC Electrical Panel Layout** in the Schematics Section of this manual, which illustrates the location of the breaker switches). As the toilet is flushed, vacuum energy is depleted and the Vacuum Pump will automatically activate to restore the required level. The Vacuum Pump will operate for approximately 30 to 90 seconds until the system reaches the required operating vacuum level. Toilet waste, both liquid and solid, is removed by the vacuum energy and water combination to a Waste Tank having a capacity of sixty (60) gallons (See **Mechanical Layout** in the Schematics Section of this maual, which illustrates the location of the Waste Tank).

This waste is stored in the Waste Tank until pumped out at a proper facility. The photo below shows the waste tank. It is located under the forward stateroom.

The Waste Tank is equipped with an electronic Waste Level Gauge, which monitors the volume of waste in the tank for your convenience in determining when pump-out is required (See photograph below, which illustrates the location of the **Waste Level Gauge**). This gauge is located inside the smallest cabinet in the passageway.

Maintenance of your *Sea Land* Vacuflush Sanitation System consists of periodic cleaning of the toilet bowl with a mild nonabrasive cleaner. The Waste Tank should be thoroughly rinsed after each pump-out and a sanitation system deodorizer should be added to the Waste Tank by flushing through the toilet.

CAUTION

DO NOT use chlorine-based or caustic cleaning agents or chemicals, such as drain opening products, in your *SeaLand* Vacuflush Sanitation System. Use of these products may cause serious damage to the system's seals and hoses.

Refer to the SEALAND VACUFLUSH SANITATION SYSTEM MANUAL included with your owner's packet for additional information concerning the use and maintenance of this system, including the proper procedure for winterization and storage.

***Jabsco* Quiet-Flush Electric Toilet (Fresh Water)**

This system is operated by water supplied by the pressurized fresh water system(approximately 1 - 2 quarts per flush) and is controlled by DC electrical power. Each toilet is equipped with a push button switch, that when depressed, activates both the rinse water supply and the macerator discharge pump simultaneously. In addition to the push button switch, a separate rocker-type switch may be used to control the rinse water supply, independent of the macerator. This feature allows conservation of your fresh water supply as well as the ability to raise the water level, if needed, for proper evacuation of the toilet bowl under all conditions. To prevent contamination of the fresh water supply, this system is equipped with an anti-siphon breaker contained in the water control solenoid valve. The water control solenoid valve of each toilet is controlled by an electrical breaker switch, located on the AC/DC Electrical Panel (See **AC/DC Electrical Panel Layout** in the Schematics Section of this manual, which illustrates the location of the breaker switches). Toilet waste, both liquid and solid, is flushed from the toilet by the macerator to a Waste Tank having a capacity of sixty(60) gallons(See **Mechanical Layout** in the Schematics Section of this manual, which illustrates the location of the Waste Tank). This waste is stored in the Waste Tank until pumped out at a proper facility. The Waste Tank is equipped with an electronic Waste Level Gauge, which monitors the volume of waste in the tank for your convenience in determining when pump-out is required(See photograph on this page, which illustrates the location of the Waste Level Gauge).

Jabsco Quiet-Flush Electric Toilet(Raw Water)

This system is identical to the fresh water system in its operation, but uses raw water pumped from the sea as its rinse water source instead of fresh water supplied by the pressurized fresh water system. This system is not equipped with a separate rocker-type switch to control the rinse water level and the volume is consistent(approximately 1 - 2 quarts per flush). As with the fresh water system, to prevent contamination of the raw water supply, this system is equipped with an anti-siphon breaker contained in the water control solenoid valve. The water control solenoid valve of each toilet is controlled by an electrical breaker switch, located on the AC/DC Electrical Panel(See **AC/DC Electrical Panel Layout** in the Schematics Section of this manual, which illustrates the location of the breaker switches). Toilet waste, both liquid and solid, is flushed from the toilet by the macerator to a Waste Tank having a capacity of sixty(60) gallons(See **Mechanical Layout** in the Schematics Section of this manual, which illustrates the location of the Waste Tank). This waste is stored in the Waste Tank until pumped out at a proper facility. The Waste Tank is equipped with an electronic Waste Level Gauge, which monitors the volume of waste in the tank for your convenience in determining when pump-out is required(See photograph on previous page, which illustrates the location of the Waste Level Gauge).

Maintenance of your *Jabsco* Quiet-Flush Electric Toilet Sanitation System consists of periodic cleaning of the toilet bowl with a mild nonabrasive cleaner. The Waste Tank should be thoroughly rinsed after each pump-out and a sanitation system deodorizer should be added to the Waste Tank by flushing through the toilet.

CAUTION

DO NOT use chlorine-based or caustic cleaning agents or chemicals, such as drain opening products, in your *Jabsco* Quiet-Flush Sanitation System. Use of these products may cause serious damage to the system's seals and hoses.

Refer to the JABSCO Quiet-Flush Toilet Manual included with your owner's packet for additional technical information concerning the use and maintenance of both the fresh water and raw water systems.

Refer to the Winterization and Storage Section of this owner's manual for the proper preparation procedure for extended storage in cold climates.

SHOWER SUMP PUMP SYSTEM

Your **410 SB** is equipped with a shower; it is located on the port side(See **Interior Layout** in the Schematics Section of this Owners Manual, which illustrates the location of both showers). The shower is equipped with a separate automatic sump pump(See **Mechanical Layout** in the Schematics Section of this manual, which illustrates the location of both shower sump pumps). As the water drains from the shower into the sump pump to a certain level, it raises an automatic switch lever, which activates the shower sump pump and the water is pumped overboard.The photo below shows the Shower Sump Pump

Access to the Shower Sump Pump is through a hatch located on the deck of the midships passageway. The photo below shows the panel removed.

The **Shower Sump Pump System** operates on DC electrical power, controlled by individual breaker switches located on the AC/DC electrical Panel(See **AC/DC Electrical Panel Layout** in the Schematics Section of this manual, which illustrates the location of the sump pump breaker switches). A separate breaker switch controls each shower sump pump and they operate independently of each other.

General maintenance of the **Shower Sump Pump System** involves periodic cleaning to remove any accumulated debris. Remove the six(6) screws securing the top cover for access to the debris basket and automatic float switch. If you notice that the shower does not drain properly, check the respective sump pump basket for debris and clean, if necessary. If the shower still does not drain properly, check the operation of the pump by manually raising the automatic float switch. If the sump pump is operable, but will not drain properly, check all drain lines for debris and clean as needed. See your Silverton dealer for further inspection and repair if the shower continues to drain improperly.

CAUTION

When operating the air conditioner(s) on your **410 SB**, the sump pump breaker switches must be turned ON. Condensation from the air conditioner drains into the **Shower Sump Pump System** and this water is pumped overboard by the sump pumps.

Refer to the Winterization and Storage section of this Owner's Manual for the proper preparation and maintenance of the SHOWER SUMP PUMP SYSTEM prior to seasonal storage.

STEERING SYSTEM

The steering system in your **410 SB** is manufactured by *Sea Star*, a subsidiary of *Teleflex (Canada, Ltd.)*, and is hydraulically assisted. Hydraulic assisted steering is similar to the power steering system in your automobile and greatly reduces the manual effort necessary to steer your yacht and maintain the desired course. The **Hydraulic Steering System** in your **410 SB** differs from your automobile, as a separate pump is not used to circulate the hydraulic fluid contained in the system; the system is completely filled with hydraulic fluid and is free of air. As you turn your steering wheel, the hydraulic fluid is pumped by the steering head into the appropriate fluid line, Port or Starboard, resulting in movement of the steering cylinder in the respective direction. The steering cylinder is connected to the rudders and they are subsequently turned, which enables your yacht to turn in the desired direction; to Port or Starboard(See photograph below which illustrates the location of the steering cylinder and its connection to the rudders).

The **Hydraulic Steering System** in your **410 SB** utilizes an adjustable tilt-type steering head, which allows you to adjust the steering wheel angle for maximum personal comfort. The photo below shows the tilt control on the Steering Wheel.

The stee on single station models and on the upper helm station ONLY on lower station models. The vented cap is located on the top of the steering head and forward of the steering wheel. The photo below shows the vented cap.

The lower station steering head fill cap is NOT vented. The hydraulic fluid level should be checked on the upper helm station ONLY. If needed, hydraulic fluid is added at this location to fill the reservoir to the proper level.

Maintenance of the **Hydraulic Steering System** should only be performed by your Silverton dealer or a qualified technician, who is experienced in marine hydraulic systems. Periodically examine all connections and hydraulic lines for any signs of leakage. If any leaks are noted, contact your Silverton dealer for further inspection and repair, if necessary.

Refer to the SEA STAR Manual included with your Owner's Packet for the specific type of hydrolic fluid required and technical information concerning the Hydraulic Steering System.

SHIFT/THROTTLE CONTROL SYSTEM (MORSE CONTROLS) (OPTIONAL)

You may have chosen as an option when you purchased your **410 SB**, an electronically controlled **Shift/Throttle Control System**, manufactured by *Morse Controls, Inc.* and factory installed at the Silverton plant. The purpose of this system is to provide the operator with smooth, positive shift and throttle operation requiring minimal manual effort. With this system, only one(1) shift/throttle control lever is required per engine; the left control lever operates the Port engine and the right control lever operates the Starboard engine.

The ***Morse*** **Shift/Throttle Control System** is operated on DC electrical power, controlled by a breaker switch located on the AC/DC electrical Panel and described as “Accessory”(See **AC/DC Electrical Panel Layout** in the Schematics Section of this manual, which illustrates the location of the “Accessory” breaker switch that controls the ***Morse*** **Shift/Throttle Control System**). The control lever unit is located on the Starboard side of the helm station (See photograph below, which illustrates the ***Morse*** **Shift/Throttle Control Unit**).

Refer to the MORSE CONTROLS, INC. Manual included with your owner’s packet for additional texchnical information concerning the operation and maintenance of the MORSE SHIFT/ THROTTLE CONTROL SYSTEM.

TRIM TAB SYSTEM

The purpose of the **Trim Tab System** on your **410 SB** is to assist in reaching planing speed as soon as possible and to maintain a proper “running attitude” while in forward motion. “Running Attitude” is defined as the level of the boat, both fore and aft and athwartships, while the vessel is underway. Your yacht, upon reaching planing speed, should rise slightly in the bow and should not list to either side for the greatest stability and fuel economy. Your **410 SB** is equipped with two(2) *Bennett* trim tabs, each measuring 12” x 24”, which are mounted on the trailing edge of the transom(See photographs below, which illustrate the location of the Port and Starboard trim tabs).

Each trim tab operates independently of each other and they are controlled by separate rocker-type switches, located on the Helm Switch Panel (See **Helm Switch Panel Layout** in the Schematics Section of this manual, which illustrates the location of the trim tab switches). Each trim tab is actuated by a hydraulic cylinder, which moves them in an Up or Down motion.

The position as determined by depressing the rocker-type switches as follows:

- Depressing the TOP of the switch lowers the trim tab.

- Depressing the BOTTOM of the switch raises the trim tab.

The **Trim Tab System** operates in the following manner:

✔The function of the trim tab is to redirect the flow of water beyond the bottom of the transom. This creates an upward pressure on the hull bottom at the transom, which results in lowering the bow.

✔When the Port trim tab is lowered, the Port stern section is raised, which lowers the Starboard side of the bow.

✔When the Starboard trim tab is lowered, the Starboard stern section is raised, which lowers the Port side of the bow.

✔Both trim tabs should be lowered/raised as needed to maintain a proper “Running Attitude”.

WARNING

Operation of the Trim Tab System may require practice to attain a level of proficiency. DO NOT operate either trim tab to its extreme lowered position suddenly. This may cause the bow to lower to an unsafe position while heading into or away from waves, which may cause “swamping” of your yacht, resulting in possible injury or death. DO operate the trim tab switches with short “bursts” until the desired “Running Attitude” is obtained.

Maintenance of the **Trim Tab System** is as follows:

✔Silverton recommends painting the trim tabs with good quality, antifouling bottom paint. DO NOT paint any hinges or the moving parts of the cylinders.

✔To reduce the risk of electrolysis and galvanic corrosion, Silverton recommends the installation of sacrificial zinc anodes on the trim tab plates at least once a year, preferably during preparation for spring launch. DO NOT paint the sacrificial zinc anodes.

✔Periodically examine the trim tabs for accumulation of underwater growth and clean as necessary.

✔Periodically examine the trim tab pump and hydraulic lines, which are located in the bilge area, for leaks(See Mechanical Layout in the Schematics Section of this manual, which illustrates the location of the trim tab pump). Tighten connections if leaks are noted. If the hydraulic lines appear worn or chafed, contact your Silverton dealer for inspection and replacement, if necessary. The photo below shows the trim tab pump.

Refer to the BENNETT TRIM TAB Manual included with your owner's packet for technical information concerning the operation and maintenance of the trim tab system.

ICEMAKER UNIT (OPTIONAL)

You may have chosen as an option when you purchased your **410 SB**, an **Icemaker Unit**, manufactured by *U-Line Corporation* and factory installed at the Silverton plant. The purpose of this system is to provide you with a continuous supply of fresh ice upon demand and as needed.

The **Icemaker Unit**, which is located on the bridge, operates on AC electrical power and is controlled by a breaker switch located on the AC/DC electrical Panel(See **AC/DC Electrical Panel Layout** in the Schematics Section of this manual, which illustrates the location of the breaker switch that controls the **Icemaker Unit**). While your **410 SB** is underway, you must operate your generator(if so equipped) to maintain operation of the **Icemaker Unit.**

Refer to the *U-LINE CORPORATION* ICEMAKER MANUAL included with your owner's packet for specific instructions concerning the operation and maintenance of the **ICEMAKER UNIT**.

LPG SYSTEM (OPTIONAL) _____

You may have purchased as an option with your **410 SB** an optional LPG Cooking System. This system is manufactured by Seaward Products. The purpose of this option is to give a alternative to electric cooking in your boat.

WARNING

Open flame appliances consume oxygen. This can cause asphyxiation or death. Maintain open ventilation. Do not use this appliance for comfort heating.

It is recommended that every time the LPG tank valve is opened for use, the operator close the valve and watch that the gauge needle remain constant. If leaks occur, repair the leak. If the leak cannot be repaired, DO NOT operate the appliance.

Regular cleaning with a soft cloth and warm detergent solution is generally enough to keep your cooktop clean and beautiful. This is done when the cooktop is cool. Use a dry cloth or paper towel to clean splatters and spills when surfaces are warm.

Due to the nature of LPG gas it is necessary to discuss safety items associated with the operation this system.

1) This system is designed for use with Liquefied Petroleum Gas(LPG) only. Do not connect Compressed Natural Gas(CNG) to this system.

2) Keep cylinder valves and solenoid valves closed when boat is unattended. Close them immediately in any emergency. When on board, cylinder valves and solenoid valves shall be closed when appliances are not in use. Keep empty cylinder valves closed tightly. Keep protective covers caps or plugs in place.

3) Close appliance valves before opening cylinder valves.

4) Test for system leakage each time the cylinder supply valve is opened for appliance use. Close all appliance valves. Open then close cylinder supply valve. Observe pressure gauge at the regulating device and see that it remains constant for not less than three minutes before any appliance is used. If any leakage is evidenced by a pressure drop, check system with a leak detection fluid or detergent solution which does not contain ammonia and repair before operating system.
NOTE: Ammonia, which is present in some soaps and detergents, attacks brass fittings. Undetectable at first, in a matter of months, these fittings may develop cracks and leaks.

DANGER

NEVER USE FLAME TO CHECK FOR LEAKS!

5) Do not obstruct quick access to LPG system components in any way.

6) Do not use LPG cylinder housing for storage of any other equipment.

7) Never leave craft unattended when LPG consuming appliances are in use.

8) Do not smoke or use open flame when replacing LPG Cylinders.

9) Inspect hoses in system at least annually. Replace every five years or sooner if deterioration is found.

10) Inspect flue pipes at least annually. Replace if deterioration or openings are found.

REFER TO THE SEAWARD PRODUCTS OWNER'S MANUAL FOR ADDITIONAL OPERATION AND SAFETY INFORMATION ON YOUR LPG SYSTEM.

OIL X-CHANGE-R SYSTEM (OPTIONAL)

You may have chosen as an option when you purchased your **410 SB**, an ***OIL X-CHANGE-R* System**, manufactured by *Ray Zager & Company* and factory installed at the Silverton plant. The purpose of the ***OIL X-CHANGE-R* System** is to automatically drain, fill and maintain engine and/or transmission oil with relative ease and no spilled oil, which is normally associated with your required periodic oil changes. The ***OIL X-CHANGE-R* System** consists of an enclosed pump, located in the engine compartment, which operates on DC electrical power. The system pump is controlled by a breaker switch, located on the AC/DC Electrical Panel and described as "Accessory"(See **AC/DC Electrical Panel Layout** in the Schematics Section of this manual, which illustrates the location of the "Accessory" breaker switch that controls the ***OIL X-CHANGE-R* System**). Operation of the system is accomplished by turning ON the toggle switch located on the pump unit.

Refer to the OIL X-Change-R Sytem Manual included with your owner's packet for information concerning the operation and maintenance of this system.

REMOTE CONTROLLED SPOTLIGHT (OPTIONAL)

You may have chosen as an option when you purchased your **410 SB**, a **Remote Controlled Spotlight**, manufactured by *ITT Jabsco* and factory installed at the Silverton plant. The spotlight unit is permanently mounted on the foredeck at the pulpit and operates on the DC electrical system. The system is controlled by a breaker switch described as “Accessory”, located on the AC/DC Electrical Panel (See **AC/DC Electrical Panel Layout** in the Schematics Section of this manual, which illustrates the location of the “Accessory” breaker switch that controls the **Remote Controlled Spotlight**). The spotlight control panel is located at the helm station and power to and movement of the spotlight is controlled from this remote location (See photographs below, which illustrate the location of the **Remote Controlled Spotlight** and the **Control Panel**).

Refer to the ITT JABSCO Manual included with your owner’s packet for information concerning the operation and maintenance of the remote controlled spotlight.

CLEANING AND MAINTENANCE

A periodic cleaning and maintenance schedule of the interior and exterior surfaces of your **410 SB** is recommended. Not only will it maintain your yacht in pristine condition, but it will also result in a higher resale or trade-in value when you decide to purchase another Silverton yacht. A clean yacht is both pleasing to the eye and a source of pride in ownership. Cleaning and maintenance of your **410 SB** is described in the following categories:

- Interior Cleaning/Maintenance
- Exterior Cleaning/Maintenance
- Canvas Enclosure Cleaning & Maintenance

Interior Cleaning / Maintenance

There are several different types of surfaces in the interior of your **410 SB** and all require a different method of cleaning. The surfaces and their respective cleaning and maintenance procedures are as follows:

Fiberglass

Wash with a mild soap and water solution. Thoroughly dry with a soft cloth and apply a coat of good quality wax designed for marine use.

CAUTION

DO NOT use abrasive cleaning agents on fiberglass surfaces, as they will scratch and dull the finish.

Wood

There are many wood surfaces in your **410 SB**, such as galley cabinets, entertainment cabinets and trim. Care and cleaning of the wood surfaces is identical to the maintenance of the wood surfaces in your home. Frequently remove dust from the wood with a feather duster or similar cleaning tool. Apply a good quality furniture polish, such as *Liquid Gold*, to all wood surfaces on a regular basis to maintain their beauty and lustre.

Nautolex (Vinyl)

Gently wash with a mild soap and water solution and dry with a soft, lint-free cloth on a regular basis. DO NOT wait for the vinyl surface to appear soiled before you clean it, as stains and ground-in surface dirt may be difficult to remove.

CAUTION

DO NOT use cleaning agents containing bleach, as they will remove the color tint from the vinyl surface, causing a blotching appearance and will dry the material, resulting in surface cracks.

Upholstery

The upholstery in your **410 SB** is high quality and stain resistant. Frequently vacuum the upholstery to remove any dirt before it accumulates and becomes imbedded. Stains may be removed by using a quality household stain remover. Be certain to follow the manufacturer's directions concerning its use.

Carpeting

The carpet in your **410 SB** is a high quality nylon pile. Normal cleaning and maintenance is accomplished by vacuuming on a frequent and regular basis. Refer to the carpet manufacturer's pamphlet included with your owner's packet for additional cleaning procedures, such as stain re-

moval.

You may have chosen as an option at the time of purchase of your **410 SB**, a “Central Vac” vacuum cleaning system. Similar to the system in your home, only a removable vacuum hose with cleaning attachments is necessary to vacuum any portion of the interior of your yacht. The “Central Vac” system in your yacht is operated on the AC electrical system with a “Ground Fault Interrupter” circuit for your protection. The vacuum motor and canister(stores the vacuumed soil) are self-contained in one unit and located in the lower portion of the dinette seat. Access to the canister is gained through a panel located on the inboard face of the dinette seat. There is one(1) vacuum hose outlet, which is located on the face of the canister access panel. Refer to the manufacturer’s pamphlet included with your owner’s packet for specific directions concerning operation of the system.

Corian

The galley and head counter tops and head sinks are manufactured of Corian, which is a superior quality, tough, scratch-resistant material. The Corian surfaces in your **410 SB** are a Matte/Satin finish and are easily cleaned and maintained in the following manner:

Cleaning: Dirt and stains are removed by using a soap and warm water solution. Tough stains may be removed by using an ammonia-based cleaning agent. Watermarks may be removed simply by wiping the surface with a clean, damp cloth and drying with a towel.

Disinfecting: Occasionally wipe the surfaces with a 50/50 water and bleach solution. Rinse with warm water and dry with a towel.

Sink Cleaning and Disinfecting: General cleaning of the Corian sinks is the same procedure as described above. For a more thorough cleaning, occasionally fill the sink with a 50/50 water and bleach solution and let soak for fifteen (15) minutes. As the solution drains, wash the bottom and sides, rinse with warm water and dry with a towel.

Cuts and Scratches: Cuts and scratches may be removed from your Corian surfaces. Refer to the manufacturer’s pamphlet included with your owner’s packet for the proper procedure.

Exterior Cleaning/Maintenance _

The exterior surfaces of your **410 SB** consist primarily of fiberglass, stainless steel, aluminum, safety glass, acrylic plastic and anti-fouling bottom paint. As with the interior surfaces, the exterior surfaces demand frequent cleaning and maintenance and the respective procedures are as follows:

Fiberglass

Wash with a mild soap and water solution, particularly if your yacht is used in salt or brackish water. Always thoroughly wash your yacht after each use in addition to a regular, periodic washing schedule. A more frequent washing schedule may be required, depending on the environment where your yacht is normally docked/moored. A soft scrub brush may be used on the non-skid surface areas. Thoroughly dry with a soft cloth and apply a coat of good quality wax designed for marine use, such as carnauba paste wax. **DO NOT**

apply wax to the non-skid surface areas, as it will render them ineffective. If your boating season is year around, it is recommended a coat of wax be applied every three (3) months. If your boating season is restricted to the summer months, it is recommended a coat of wax be applied prior to spring launch and again at the end of the season prior to winter storage.

CAUTION

DO NOT use abrasive cleaning agents on fiberglass surfaces, as they will scratch and dull the finish.

Stainless Steel

The bow rail, aft deck rail, mooring cleats and other hardware on your **410 SB** are manufactured of quality 316L grade stain-

with fresh water. Dry with a soft cloth to remove any water stains. If discoloration or salt deposits are not removed with normal washing, a non-abrasive household cleaner or stainless steel polishing powder may be used with a soft bristle brush. Always scrub in the direction of the polishing lines imbedded in the stainless steel to avoid scratching the surface. For a superior shine, wipe the stainless steel with a light coat of kerosene, followed by a light coat of lemon oil. The kerosene enhances the lustre and protects the stainless steel and the lemon oil removes the unpleasant kerosene odor. Be careful not to spill or wipe kerosene on the fiberglass surfaces, as it will remove the coat of wax.

CAUTION

DO NOT use abrasive cleaning agents or steel wool pads or brushes, as these products may scratch and damage the stainless steel finish.

Aluminum

The windshield and window frames on your **410 SB** are manufactured of aluminum, unless you purchased, as an option, stainless steel frames. The aluminum components are cleaned and maintained in the same manner as the components manufactured of stainless steel.

CAUTION

DO NOT use kerosene or lemon oil on any painted aluminum surfaces, as they will soften and remove the paint.

CAUTION

DO NOT use any abrasive cleaning agents or steel wool products when cleaning aluminum. Aluminum scratches very easily and these products will scratch the surface.

Safety Glass

The windshield and windows on your **410 SB** are manufactured of safety glass similar to the safety glass found on your automobile. The safety glass on your yacht is much heavier and thicker than the glass on your automobile and meets or exceeds all American Boat and Yacht Council(ABYC) standards. The safety glass may be cleaned with the same soap and warm water solution used for cleaning

the exterior surfaces of your yacht and then dried with a soft towel. For a thorough cleaning and to remove all water stains, use a quality window cleaner, such as *Windex*, and dry with a paper towel.

CAUTION

DO NOT use any abrasive cleaning agents or abrasive cleaning cloths or pads when cleaning safety glass surfaces, as they will scratch the surface.

Acrylic Plastic

The venturi windshield, which is located on the bridge of your **410 SB**, is manufactured of a tough acrylic plastic. Clean the acrylic plastic surfaces with a mild soap and water solution or non-ammonia based cleaner and dry with a soft cloth.

CAUTION

DO NOT use any abrasive cleaning agents or abrasive cleaning cloths or pads when cleaning acrylic plastic surfaces, as they will scratch the surface.

Canvas Enclosure(Optional) Cleaning/Maintenance

The canvas enclosure you purchased as an option from your Silverton dealer consists of canvas fabric, vinyl windows and zippers. An aluminum tubular frame supports the enclosure and it is secured to the bridge and deck with “snaps”. Each of these components require a different cleaning and maintenance procedure and they are as follows:

Canvas Fabric

The canvas should be cleaned on a regular basis before dirt, salt and other deposits accumulate and become imbedded in the fabric. The canvas may be cleaned, without removal from your yacht, while it is in the normal upright position. Brush off any loose dirt and then rinse with fresh water. Wash the fabric with a mild soap and lukewarm (temperature less than 100° F) water solution, rinse thoroughly with fresh water and allow to air dry.

CAUTION

DO NOT use any cleaning agents containing detergent, as they will remove the protective coating, resulting in stiffness and eventual cracking of the fabric.

CAUTION

DO NOT dry the canvas fabric by any means other than air-drying. Use of heated drying apparatus, such as a hair dryer, will result in stiffness and cracking of the material.

Vinyl Windows

The vinyl windows in your enclosure should be cleaned on a frequent basis to extend their life and maintain clarity. Rinse off any loose dirt with fresh water and wash with a mild soap and cool water solution. After washing, rinse with fresh water and dry with a soft cloth.

CAUTION

DO NOT use any abrasive cleaning agents or brushes when cleaning your vinyl windows, as they will scratch the material, resulting in poor clarity.

CAUTION

DO NOT fold the vinyl windows after removing them from the enclosure. Roll them prior to placing them in storage. Folding the vinyl windows will cause creases and eventual cracking. If you anticipate long-term storage, place a soft cloth over the vinyl window and roll the window with the cloth in place. The cloth barrier will prevent the vinyl from sticking to itself, particularly during warm weather.

Zippers

The various sections of your canvas enclosure are secured together with zippers to permit easy removal of any or all sections without the cumbersome weight or size of the entire unit. The zippers are manufactured of high impact plastic coated stainless steel and have large teeth for smooth operation. They should be washed while you are washing the canvas and then periodically lubricated by rubbing a candle on the zipper in the closed position and then opening and closing several times to distribute the wax lubricant.

Aluminum Tubular Frame

The upper portion of your canvas enclosure is supported by a tubular aluminum frame. The frame is secured by stainless steel pins placed in brackets that are permanently mounted on the fiberglass surface at various locations on the bridge and deck. The aluminum frame is cleaned and maintained in the same manner as the other aluminum components on your yacht as previously described.

CAUTION

DO NOT use kerosene or lemon oil on the aluminum frame, as it will stain the canvas fabric. A small amount of lubricant, such as *CRC*, may be used to lubricate the stainless steel pins.

Two-Piece "Snaps"

The lower portion of your canvas enclosure is secured to the bridge and deck by two-piece "snaps", which are manufactured of chrome-plated brass. The female portion is permanently secured in the lower seam of the canvas and the male portion is permanently secured into the fiberglass surface of the bridge and deck. Frequently examine the snaps for the presence of dirt and remove with a soap and water solution and rinse with fresh water. Periodically lubricate the female portion with a small amount of lubricant, such as *Vaseline Petroleum Jelly*.

WINTERIZATION AND STORAGE

In most cases, the reason for storage of your yacht is winter lay-up. The information contained in this section is a general guide. Your Silverton dealer or a competent boatyard should prepare your yacht for winter storage.

If you are removing your yacht from the water for another reason, use the information in this section as a guideline. Following the procedures in this section will help extend the life of your yacht and its equipment and simplifies recommissioning in the spring.

Indoor storage is beneficial if you are storing your yacht in a climate that pro-

duces ice and snow. The storage building should be adequately ventilated and not tightly closed. Ventilation, both around and throughout the yacht, is very important to help prevent the growth of mold and mildew.

If you use outdoor storage facilities, cover your yacht with a cover having provisions for ventilation to keep the yacht from "sweating". Building a frame over the boat to support the cover will allow the passage of air around the yacht. The frame should be a few inches wider than the yacht so the cover will extend beyond the rubrail. The frame should also support the center of the cover and cause it to rise in a slight "teepee" position to allow for water runoff.

NOTE: DO NOT seal the cabin tightly to allow proper ventilation throughout.

Before preparing your yacht for winter storage, thoroughly check the condition of the yacht and its systems and equipment. Note any repairs that may be needed. The need for additional repairs may become apparent during the winterization process. Make arrangements with your Silverton dealer to have the repairs completed.

Cleaning and Preparation For Storage

• Thoroughly clean the hull immediately after removing the yacht from the water. Pressure wash the bottom, if possible, to remove all marine growth. If pressure washing is not possible, thoroughly scrub the hull bottom. Marine growth is much easier to remove while it is still wet.

• Thoroughly clean the remainder of the hull and the deck. Silverton recommends a coat of wax be applied to the hull above the waterline and to the deck for added winter protection.

• Apply rust inhibitor, such as *CRC*, to all metal parts.

• Thoroughly clean the inside of all hull openings, thru-hull fittings and filtration screens (See **Thru-hull Layout** in the Schematics Section of this manual, which illustrates the location of the thru-hull fittings. See **Mechanical Layout** in the Schematics Section of this manual, which illustrates the location of the seawater intake valves). Inspect the hull and underwater gear for signs of wear, deterioration or damage and repair, if possible, before covering and storing your yacht.

• Fill the fuel tanks to prevent condensation and add a good quality fuel preservative (Refer to the fuel preservative manufacturer's recommendation for the proper ratio).
IMPORTANT: DO NOT overfill the fuel tanks so fuel flows from the vent(s). Allow sufficient room in the tanks for fuel to expand.

• Prepare the engines for storage. Refer to the engine manual for winterization and storage procedures.

• Prepare the generator and air conditioners (if so equipped) for storage. Refer to the generator manual and the air conditioner manual, included with your owner's packet, for the proper winterization and storage procedures.

Draining Your Yacht

Your yacht has drain plugs for draining water from the bilge (See **Mechanical Layout** in the Schematics Section of this manual, which illustrates the location of the garboard drain plugs). Some compartments in the bilge may not drain completely due to the position of the yacht. Pump these compartments out with a portable pump and then use a sponge to remove all remaining water.

The procedure for draining and winterizing the fresh water system is as follows:

• Drain the fresh water supply tank by opening the hot and cold faucets in the galley for ten (10) minute intervals until the tank is empty.

• Open all faucets in the galley, both showers, both head sinks and the exterior cockpit shower.

• Remove the fresh water filter bowl and strainer. Clean, dry and replace strainer bowl.

• Drain the water heater and remove the cold water intake hose and hot water output hose and hook them together.

• Remove the inlet hose from the fresh water tank (See **Mechanical Layout** in the Schematics Section of this manual, which illustrates the location of the fresh water tank) and insert it into a container of non-toxic, fresh water anti-freeze. Turn the fresh water pump ON and starting at the farthest faucet from the pump, turn ON all faucets until the anti-freeze flows out.

• Turn OFF the fresh water pump and reconnect the inlet hose to the fresh water tank.

• Pour non-toxic anti-freeze into all sink and shower drains until the liquid is discharged overboard.

Alternate procedure for draining and winterizing the fresh water system is as follows:

• Drain all water from the fresh water tank.

• Drain all water from the water heater.

• Remove hose from the input side of the fresh water pump and allow to completely drain.

• Remove hose from the output side of the fresh water pump and turn ON all faucets.

• Blow compressed air (15-20 lbs. psi) through the output hose until all water stops flowing from the faucets.

• Leave water lines at the fresh water pump disconnected to allow any trapped water vapor to drain and evaporate.

The procedure for draining and winterizing the marine sanitation system is as follows:

• Drain all water lines into the waste holding tank. Continue to flush fresh water into the waste holding tank and pump out into an approved waste facility until thoroughly clean.

• Add non-toxic, freshwater anti-freeze to the waste holding tank by flushing through the toilet.

• Run the macerator pump to allow anti-freeze to flow through the pump and the input/output lines.

CAUTION

• Remove the drain plug from the macerator seacock while the valve is closed and allow the line to drain. Replace the drain plug.

• Thoroughly clean the toilet and leave the bowl exposed to prevent mildew

• Remove all seacock and strainer drain plugs to prevent from freezing. Close all seacocks.

Seacocks

- Engines
- Head System (Intake)
- Head System (Macerator pumpout)
- Generator
- Air Conditioners (if equipped)

Strainers

- Engines
- Fresh Water System
- Generator
- Air Conditioners (if equipped)

Battery Storage

The procedure for battery winterization and storage is as follows:

• Turn battery switch to OFF.

• Remove engine batteries and generator battery (if so equipped) from their respective compartments (See **Mechanical Layout** in the Schematics Section of this manual, which illustrates the location of the engine and generator batteries).

• Place batteries on a wooden pallet or bench and store in an area where temperatures remain above freezing.

IMPORTANT: DO NOT store batteries on a concrete surface, such as a garage floor, as they will tend to discharge.

• Keep batteries fully charged during storage. Periodic charging (once a month) with a battery charger set on a low amperage charge is recommended. Check the battery electrolyte levels regularly. Add electrolyte, if needed.

Refer to the battery literature included with your owner's packet for additional information concerning the care and storage of your batteries

Interior Preparation

The procedure for preparing the interior of your yacht for winter storage is as follows:

• Remove all items that will hold moisture (towels, PFD's, blankets, clothing, canvas, etc.) from the interior of the yacht to prevent mold and mildew formation.

• Remove all electronic equipment and items of value that are detachable.

• Remove all garbage and trash.

• Thoroughly clean the interior of your yacht. Clean all cabinets, drawers and cupboards. Allow the cabin area to air dry for at least one day, if possible.

• Stand or prop up all mattresses and cushions that are to remain on board during storage to allow air circulation around them.

• Place *Mildew Pacs* in various locations within the interior of your yacht to help prevent mold and mildew formation during

storage (Refer to the manufacturer's recommendation for the quantity and location required).

Lifting Your Yacht

The following are guidelines that will help prevent damage to your yacht as it is being lifted:

• Never lift the yacht with a greater than normal accumulation of water in the bilge. All tanks containing fresh water should be empty.

• Place lifting slings where indicated by the sling tab labels on the gunwales(See **Thru-hull Locations Layout-Port and Starboard** in the Schematics Section of this manual, which illustrates the location of the sling tab locations). Avoid placing slings where they may lift the propeller shaft or other underwater fittings. Padding, placed under the slings at the chine corners, will help to keep pressure to a minimum at this location.

• Disconnect the propeller shafts at the transmissions to prevent damage to the transmissions and shafts.

• Use wide, flat, lifting slings made of belting and spreader bars long enough to keep pressure off of the gunwales.

⚠ CAUTION

DO NOT use slings made of cable. Pressure caused by the slings on the gunwales can cause severe gelcoat crazing or more serious hull damage. The spreader bar at each lifting sling should be at least as long as the distance across the widest point the sling surrounds.

• If a marine railway or platform hoist is being used, locate and adjust the blocking to distribute the weight over several areas. The weight borne by the keel must not be so great as to cause crushing or distortion of the member.

• When lifting the yacht, keep the bow higher than the stern so the engine and generator (if so equipped) exhaust lines can drain. This will prevent water from flowing forward through the manifold and into the engine itself, where it may become trapped.

⚠ CAUTION

Always keep the bow higher than the stern every time the yacht is lifted. DO NOT lift the stern higher than the bow at any time as this may cause water to enter the engines. Engine failure is possible if water enters the engine cylinders. The water can cause "hydrostatic lock" and bend the piston rods. "Hydrostatic lock" is a situation where the piston cannot travel to its full upward position due to the presence of a liquid above the piston and extreme pressure is forced downward as the piston moves upward. Even a small quantity of water can cause rust or other internal engine damage.

NOTE: Silverton recommends an optional storage cradle with the purchase of your yacht. The cradle is factory made to conform to the bottom of your yacht for safe storage and minimizes the risk of hull distortion.

OPERATING YOUR YACHT

Most people who purchase a Silverton yacht have boat handling knowledge and experience with other types of vessels. This section of the Owner's Manual provides basic information concerning the safe operation of your yacht and is a review of the information contained in each of the "Systems Sections". Be certain to read and have a thorough understanding of all systems described in this Owner's Manual BEFORE you operate your yacht. Even if you are an experienced yachtsman, you can benefit from reviewing the information contained in this section.

The first cruise on your new Silverton yacht should be a time for you to become acquainted with the vessel. Before you depart on your first cruise, you should be able to answer **YES** to the following questions:

✔ Has your Silverton dealer completed the "Pre-Delivery Service Inspection"?

✔ Have you and your Silverton dealer signed the "Pre-Delivery Service Record"?

✔ Have you completed and mailed all warranty registration cards?

✔ Have your read and do you have a complete understanding of this Owner's Manual and the O.E.M. Manuals included with your owner's packet?

✔ Does your yacht's safety equipment comply with all United States Coast Guard and local regulations?

✔ Is your safety equipment in operable condition and accessible, if needed?

✔ Has your Silverton dealer reviewed the operation of your yacht and its systems with you?

✔ Has your Silverton dealer answered all of your questions concerning the operation of your yacht and all of its systems?

If you have completed the above preliminary steps, you are ready to take your first cruise. Before you depart, give some thought to the cruise itself. Choose a calm day, if possible, and take only those people who will be members of your regular crew. Leave guests on shore, so that you are able to concentrate on learning as much as possible about your new Silverton yacht without unnecessary distractions.

Engine Startup Preparation

Make sure that you have read the Fuel Safety Checklist For Safe Boarding prior to your initial or first seasonal engine startup, and then follow the below listed procedures:

✔ Be certain all electrical circuit breaker switches are turned OFF.

✔ Raise the engine compartment access hatch and use your sense of smell to detect any fuel fumes.

If **ANY** fuel fumes are detected:

✔ Evacuate your yacht **IMMEDIATELY**.

✔ Notify the dockmaster.

✔ Open all hatches, doors and windows to provide natural ventilation.

✔ Have a qualified marine technician examine your yacht immediately to determine the source of the fuel fumes.

✔ If a leak is detected, have it repaired as soon as possible by a competent technician.

✔ If you do not detect any fuel fumes, open all hatches, doors and windows to ventilate your yacht.

✔ Visually examine the engines and generator(if so equipped) for any oil leaks. If leaks are noted, have them repaired by a competent technician.

✔ Examine the bilge area for water accumulation. Remove excess water and locate the source of the water. Remember, a small quantity of water in your bilge is normal.

Turn ON the following switches:
✔ Both battery switches.

✔ DC Electrical Panel main breaker switch.

✔ Helm electronics breaker switch.

✔ Helm accessory breaker switch.

✔ Visually examine the fire extinguisher system in the engine compartment to be certain it has not been discharged.

✔ Check the engine oil level. Refer to the Engine Manual for specific instructions concerning the proper oil level and filling procedure.

✔ Check the transmission fluid level. If the level is low, add fluid, but **DO NOT** overfill. Be certain the fluid level is below the full mark on the dipstick when the transmission is cold. The fluid will expand as it warms and will overflow if the level is too high.

✔ Check the generator (if so equipped) oil level. Refer to the Generator Manual for specific instructions concerning the proper oil level and filling procedure.

✔ If your yacht is equipped with fresh water cooled engines, remove the pressure cap from the heat exchangers and check that the coolant is filled to the neck of the filler tube. If coolant is low, refer to the Engine Manual for proper filling instructions.

✔ If your yacht is equipped with diesel engines, refer to the Engine Manual for the proper procedure for checking the coolant level and the proper antifreeze/ water ratio.

✔ Open both raw water intake valves. The valves are in the open position when the handle is parallel to the valve body.

✔ Remove raw water strainer cap and check for debris. Remove any debris noted.

✔ If your yacht is equipped with a generator, be certain there is no debris in the water strainer. Remove any debris noted.

✔ Examine the propeller shaft stuffing boxes for excessive water leakage. One drop of water every sixty (60) seconds is normal.

✔ Open the fuel shutoff valves for the engines and generator. The valve is in the open position when the handle is parallel to the valve body.

✔ Check the oil level in the trim tab reservoir and be certain the level is between the FULL and ADD marks.

Engine Startup

IMPORTANT: Always be very careful when starting your engines. Use common sense and good judgement. Turn OFF the engine(s) immediately if you observe any unsafe operating condition.

The below listed procedures should be followed when starting your engines:

✔ Operate the bilge blower motors for five(5) minutes before starting your engines.

✔ Place shift control levers in the neutral position.

✔ Place throttle control levers in the “down” position.

✔ Turn ignition switch to ON, but not to START. Be certain the engine oil pressure alarm sounds and the Automatic Fire Extinguisher System indicator light is ON.

✔ Turn ignition switch to START and hold until the engine starts. Release the ignition switch immediately after the engine starts. If the starter motor does not operate when you turn the ignition switch to START, the neutral safety switch may be out of adjustment. Carefully move the shift control lever up and down slowly until the starter motor operates. Have a competent technician adjust the neutral safety switch as soon as possible.

If the engine fails to start within thirty(30) seconds, release the ignition switch. Allow the starter motor to cool for at least sixty(60) seconds and then try again to start the engine. Prolonged starting attempts may result in starter motor overheating and damage.

Failure to release the ignition switch from the START position after the engine starts may result in serious damage to the starter motor and/or engine flywheel.

✔ If one of the batteries is not sufficiently charged to start the engine, start the engine with the fully charged battery first. Start the other engine using the “Parallel Start” switch, which draws power from both batteries. Release the parallel start switch immediately after the engine starts.

DO NOT continue to depress the “Parallel Start Switch” after the engine has started. Damage to the alternator(s) may result.

✔ Be certain the oil pressure is between 30 and 50 psi(gasoline engines) or 35 and 70 psi(diesel engines). If the oil pressure is low, turn OFF the respective engine immediately.

✔ Allow the engines to operate at the

recommended RPM's as specified in the Engine Manual until they reach normal operating temperature. Normal operating temperature for gasoline engines equipped with a fresh water cooling system is 170° F and if equipped with a raw water cooling system, 140° F. Normal operating temperature for diesel engines is between 170° F and 190° F.

✔ Check for water discharging from the exhaust outlets. The presence of water indicates water circulation in the exhaust cooling system. Water should discharge through the exhaust outlets immediately after the engine starts.

✔ After engines reach their normal operating temperature, increase the RPM's to 2000. Be certain the voltmeters read between 13 and 14.5 volts.

✔ Visually inspect the exhaust system for leaks. If any leaks are detected, immediately turn OFF the respective engine and contact a competent technician for repair.

✔ Check the transmission fluid level after the engine is warm. The transmission should be in neutral and the engines operating at idle speed. Transmission fluid should be at or slightly below the FULL mark on the dipstick. Add transmission fluid if the level is low, but **DO NOT** overfill.

Shakedown Cruise

Silverton recommends a shakedown cruise after the initial or seasonal startup. This will test the engines and various systems under normal operating conditions. Note any condition that does not meet normal operating performance standards. Repair any condition noted as soon as possible.

IMPORTANT: Before fueling your yacht, be certain you have read and have a thorough understanding of the information contained in the **"Fuel System" Section** of this Owner's Manual. It contains valuable information and cautions for your safety and the safety of your passengers.

Check the following for proper operation during your shakedown cruise:

❏ **Air Conditioner(s):** If your yacht is equipped with an air conditioning system, be certain each air conditioner is operating properly.

❏ **Engines:** Be certain both engines are capable of obtaining their maximum RPM range. Check for fuel, oil and water leaks. Check the exhaust system for leaks.

❏ **Generator:** If your yacht is equipped with a generator, be certain it starts and operates properly. Check for oil, water and exhaust system leaks.

❏ **Instruments:** Be certain that all instruments operate properly and provide normal readings.

❏ **Steering:** Check that the steering system is responsive.

❑ **Shift and Throttle Controls:** Be certain the shift and throttle controls operate properly and are in the proper adjustment.

❑ **Transmissions:** Check that both transmissions shift smoothly and positively.

❑ **Trim Tabs:** Check that the trim tabs operate properly and are responsive to your use of the controls.

After completing your shakedown cruise, recheck all fluid levels. Check all drive belts for the proper tension. Generally examine all components to be certain they did not loosen during the cruise. Make all adjustments as necessary.

DO NOT remove the cooling system filler cap when the engine is hot. Allow the engine to cool and then remove the pressure cap slowly, allowing the pressure to vent. Hot coolant, under pressure, may discharge violently and result in serious personal injury and burns.

Getting Underway

After your engines have warmed to normal operating temperature, you are ready to depart your dock/mooring. Check the wind, tide and current to determine the best way to safely maneuver your yacht away from the dock. Cast off all mooring lines.

Shift the transmissions into forward or reverse, depending on which way you want to depart your dock. Your engines should be at idle speed while departing your dock and power should only be used if necessary for control of your yacht.

Once your yacht has departed the dock and is in open water, accelerate to cruising speed(RPM's) as recommended in the Engine Manual.

Be certain to follow all safety precautions as mentioned in the "Boating Safety" Section of this Owner's Manual while operating your yacht.

Daily Engine Shutdown

After you have completed your cruise and secured your yacht to the dock, shut down the engines in the following manner:

❑ Reduce engine speed to idle.

❑ Place transmission controls in neutral.

❑ Allow engines to operate at idle speed for several minutes.

❑ Turn ignition switches to the OFF position to shut down the engines.

❑ Operate the bilge blower motors for several minutes to circulate fresh air through the engine compartment.

❑ Turn OFF battery switches.

SIXTEEN WAYS TO REDUCE FUEL CONSUMPTION

1. Keep the bottom of your yacht clean. A fouled bottom can increase drag up to 10% or more. A 10% increase in drag is equivalent to a 10% increase in fuel consumption.

2. **DO NOT** idle your engines needlessly. Depart your dock/mooring after warm-up.

3. Watch your trim. A well balanced yacht gets on plane faster, handles better and runs with less surface contact.

4. Navigate better. By plotting courses to your destination instead of just waiting for them to appear somewhere in front of you, you can eliminate miles off of your distance and gallons off of your fuel consumption.

5. Know your fuel consumption. By plotting a fuel consumption/RPM curve for your yacht, you will probably find that reducing your engines' RPM's 10% can often reduce your fuel consumption 30% with only a slight reduction in speed.

6. Remove extra weight. If you are not going to use it, do not carry it aboard. Any extra weight requires more fuel to move your yacht. Do not just stop at the lockers. Remember that water weighs 64 pounds per cubic foot, so keep the bilge areas dry.

7. Improve your yacht handling ability. **DO NOT** let the yacht labor along below a planing attitude. This is the absolute peak of fuel waste.

8. Purchase good quality fuel. Be certain you are using the correct fuel for your engine.

9. Load your yacht correctly. **DO NOT** put all of the heavy gear, such as anchors, chain, canned goods and spare parts exclusively in either the bow or stern. Heavy items should be placed amidships where they will not affect the trim and plane of the yacht.

10. Check the drive train. An inboard engine that is improperly aligned can cost you money. Check to see if the transmission has sufficient fluid(too little increases friction), if the stuffing box is too tight(increases the load on the engine) or if a bent rudder or propeller are robbing you of economy. Be certain the rudders are properly aligned.

11. Check the engine cylinder compression. Low compression indicates worn piston rings or valves which will consume oil and reduce engine power.

12. Check the engine idle speed. For the times it is necessary to operate at idle speed, be certain the engine is not running too fast and using unnecessary fuel.

13. Check the engine operating temperature. Compare your normal operating temperature with the range specified in the Engine Manual and in this Owner's Manual. An overheating engine will cause excessive wear and will be less efficient.

14. Keep the engine and transmission oil clean. Dirty oil causes varnish to form on the moving surfaces of the engine/transmission. Varnish can cut into the piston ring seal and contribute to fuel waste. Varnish will cause the transmission to "slip".

15. Check for engine air leaks. A leak in the engine intake manifold disturbs the air/fuel mixture and reduces your performance. A leak in the exhaust manifold is DANGEROUS. Carbon Monoxide Gas (CO) could enter the cabin area of your yacht.

Carbon Monoxide Gas(CO) is colorless, odorless and tasteless. It is highly poisonous, endangering lives even at very low levels of concentration. Mild exposure causes headaches and fatigue, often resembling “flu-like” symptoms. Medium exposure causes severe headaches, drowsiness, nausea and rapid heart rate. Extreme exposure results in unconsciousness, convulsions, cardiorespiratory failure and death. If Carbon Monoxide Gas(CO) is detected in your yacht, immediately contact a qualified technician to locate and repair the source of the poisonous gas. DO NOT enter your yacht until repairs have been made and the Carbon Monoxide Gas(CO) is lowered to an acceptable level.

16. Keep hot water use to a minimum. The less hot water you use, the less time your generator will have to run, resulting in lower fuel consumption.

GLOSSARY

ABAFT: Toward the rear of the yacht.

ABEAM: At right angles to the yacht's keel.

ABOARD: On the yacht.

ABREAST: Side by side.

ADRIFT: Loose. Not on a mooring or tow line.

AGROUND: Stuck fast on the bottom.

AHEAD: In a forward motion.

Amidships: (1) The area midway between the bow and the stern of the yacht. (2) The area between the Port and Starboard side of the yacht.

AMPERE: The standard unit to measure the strength of electrical current.

ASTERN: (1) In the rear area of the yacht. (2) Direction of travel when the yacht moves in reverse.

ATHWARTSHIP: Movement from Port to Starboard or Starboard to Port.

BEAM: (1) The widest distance across the yacht. (2) A transverse structural member that stiffens and supports a portion of the deck.

BILGE: The interior area of the hull below the waterline.

BILGE PUMP: A pump used to remove water that has drained into the yacht's bilge.

BOW: The forward end of the yacht.

BOW LINE: A docking line leading from the yacht's bow.

BULKHEADS: The interior walls of the yacht.

CAST OFF: Let go.

CHINE: The point where the bottom and side of the hull meet.

CHOCK: A fitting or hole through a yacht's deck through which a mooring or anchor line is routed.

CIRCUIT BREAKER: A device used to interrupt an electrical current when the current flow exceeds a predetermined level.

CLEAT: A fitting on a yacht's deck on which a mooring or anchor line is tied.

COCKPIT: An exposed aft deck area substantially lower than the forward adjacent deck.

COMPANIONWAY: The steps or ladder leading from the deck to the cabin of the yacht.

COMPARTMENTS: Rooms or spaces divided by bulkheads.

CRADLE: A wooden framework used to support a yacht when it is on land.

CURRENT: The movement of water.

DEAD AHEAD: Directly in front of the yacht.

DINGY: A small open boat used for ship to shore transportation.

DISPLACEMENT: The weight of the water displaced by the yacht's hull.

DRAFT: (1) The depth of a yacht from the actual waterline to the bottom of the lowest part, such as the propeller tip or rudder. (2) The depth of water necessary to float a yacht.

EVEN KEEL: To be floating evenly without listing to either side.

EXHAUST SYSTEM: The means by which the hot engine or generator gases are removed from the engine and released into the atmosphere.

FATHOM: Six (6) feet.

FENDER: A rubber or plastic device used to absorb impact between vessels or a vessel and a dock.

FLARE: (1) Outward curve of the hull as it rises up the side from the waterline. (2) A pyrotechnic device used for emergency signaling.

FLOTSAM: Refuse that floats when discharged overboard. See "Jetsam".

FLYING BRIDGE: The uppermost steering station from which a yacht is controlled.

FORE-AND-AFT: A line, or anything else, that runs parallel to the longitudinal center of the yacht.

FORWARD: Toward the bow of the yacht.

FREEBOARD: The vertical distance from the waterline to the sheerline (rubrail).

GALLEY: The kitchen area of the yacht.

GASKET: A strip of sealing material used to make joints fluid tight.

GELCOAT: The thin outer layer of pigmented plastic-like substance used to cover exposed fiberglass components.

GLAND: The moveable part of the stuffing box which compresses the packing when tightened (also referred to as the "packing gland").

GROUND: (Electrical) The electrical potential of the earth's surface, which is zero.

GUNWALE: The horizontal surface of the deck immediately above where it meets the hull.

HATCHES: Covers the openings in a deck or floor.

HATCHWAY: Access port through the deck.

HARDTOP: A permanent cover over the cabin or cockpit.

HAWSER: A heavy rope used for mooring or towing.

HEAD: A toilet or bathroom.

HEADING: The direction that a vessel is travelling with reference to true, magnetic or compass north.

HEADWAY: The forward motion of a vessel through the water.

HEEL: To tip or tilt to one side by means of an external force.

HELMSMAN: The person steering the yacht.

HULL: The main body of the yacht.

INBOARD: (1) From either the Port or Starboard side to the centerline of the yacht. (2) The dock side of a moored yacht.

JETSAM: Refuse that sinks when discharged overboard. See “Flotsam”.

KEEL: The centerline of a yacht running fore and aft at the lowest point of the hull.

KNOT: (1) A Maritime unit of speed equal to 1.15 miles per hour. (2) A term for hitches and bends in a line of rope.

LAZARETTE: Storage compartments below the deck at the stern of the yacht.

LIST: A vessel that inclines to Port or Starboard by its own means.

LONGITUDINAL: Lengthwise.

MOORING: An arrangement for securing a yacht to a mooring buoy or pier.

NAVIGATIONAL LIGHTS: A set of red, green and white lights which indicate the presence of a vessel and must be illuminated between the hours of dusk and dawn and during times of restricted visibility (fog, rain, snow, etc.).

OVERHEAD: The ceiling or roof of a yacht.

OUTBOARD: (1) From the centerline of a yacht to the Port and Starboard sides. (2) The seaward side of a moored yacht.

PASSAGEWAY: A corridor or hallway aboard ship.

PERSONAL FLOTATION DEVICE (PFD): Life preserver or life vest.

PIER: A loading platform that extends at an angle from the shore.

PILING: Support or protection for wharfs, piers, etc.

PITCH: (1) The vertical motion of a yacht in a seaway about the athwartship axis. (2) The axial advance in inches of a propeller during one complete revolution.

PLANING HULL: At slow speeds, a planing hull will displace water in the same manner as a displacement hull. As speed increases, the hull provides a lifting effect up onto the surface of the water.

PORT: (1) Looking forward, the left side of a yacht from bow to stern. (2) A harbor.

PORT BEAM: The left center of a yacht.

PORT BOW: Looking forward, the front, left side of the bow.

PORT QUARTER: Looking forward, the left rear section of a yacht.

QUARTER: The sides of a yacht aft of amidships.

QUARTERING SEA: Sea (waves) coming from a yacht's quarter.

RODE: The anchor line or chain.

RUNNING LIGHTS: Refer to "Navigational Lights".

RUDDER: A vertical plate used to steer the yacht.

SALON: The main social cabin of a yacht.

SCREW: A propeller.

SCUPPER: A drain from the edge of the deck or cockpit that discharges overboard.

SEACOCK: A positive action shut-off valve connected directly to the hull seawater intake valve.

SHAFT: The long round member that connects the transmission to the propeller.

SHAFT LOG: A fitting at the hull bottom where the propeller shaft penetrates the hull. The shaft log permits rotation of the shaft while simultaneously preventing water from entering the hull.

SHEER: The top of the hull from bow to stern. The point where the hull meets the deck.

SHEER STRAKE: The upper edge of the hull immediately below the deck.

SOLE: Term used to refer to the cockpit floor or floor of the cabin.

SPRING LINE: A pivot line used in docking or to prevent the yacht from moving forward or astern while made fast to a dock.

STARBOARD: Looking forward, the right side of a yacht from bow to stern.

STARBOARD BOW: Looking forward, the front, right side of the bow.

STARBOARD QUARTER: Looking forward, the right rear section of a yacht.

STEM: The leading edge of a yacht's hull.

STERN: The rear of a yacht.

STRINGER: A fore and aft continuous member located in the bottom of the hull used to provide longitudinal strength.

STRUT: A propeller shaft support that is below the hull. The main strut is a large strut that is mounted immediately forward of the propeller. An intermediate strut is smaller than the main strut and is mounted between the main strut and the shaft log.

SUMP: A pit or well into which water is drained.

SUPERSTRUCTURE: A flying bridge or other structure that extends above the deck.

TOPSIDE: To go to the uppermost deck.

TRANSOM: The stern cross section of a yacht.

UNDERWAY: A vessel that is not moored, docked, at anchor or aground.

V-BOTTOM: A hull with the bottom section that is in the shape of a "V".

V-DRIVE: A drive system that has the output of the engine facing forward and is coupled to a transmission, which then changes the output aft.

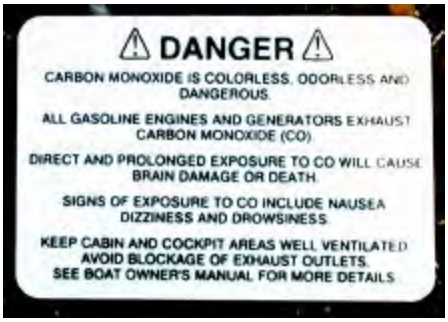
WATERLINE: The line of water on the hull when the boat is afloat and at rest.

WEATHER DECK: A deck with no overhead protection.

WINDLASS: A device used to raise and lower an anchor.

Warning Labels

The following Warning labels appear at various locations on your 42 Convertible and are self-explanatory. Be certain to familiarize yourself and your passengers with these warning labels and their contents.

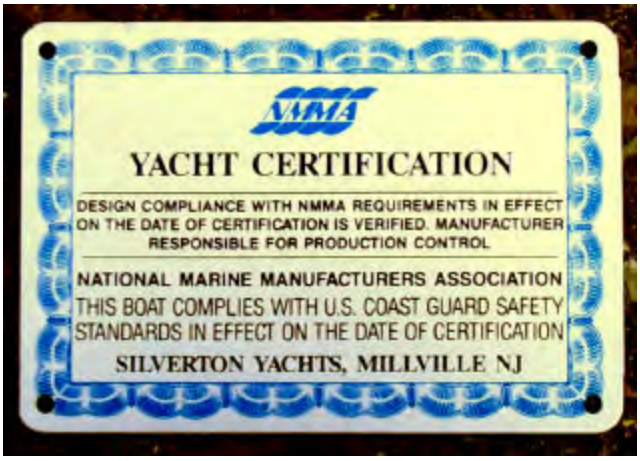

⚠ DANGER ⚠
CARBON MONOXIDE IS COLORLESS, ODORLESS AND DANGEROUS.
ALL GASOLINE ENGINES AND GENERATORS EXHAUST CARBON MONOXIDE (CO).
DIRECT AND PROLONGED EXPOSURE TO CO WILL CAUSE BRAIN DAMAGE OR DEATH.
SIGNS OF EXPOSURE TO CO INCLUDE NAUSEA DIZZINESS AND DROWSINESS.
KEEP CABIN AND COCKPIT AREAS WELL VENTILATED. AVOID BLOCKAGE OF EXHAUST OUTLETS.
SEE BOAT OWNER'S MANUAL FOR MORE DETAILS.

WARNING!
SECURE DOOR WHEN CRUISING
DO NOT SIT, STAND, OR PLACE HEAVY OBJECTS ON DOOR
CAUTION
KEEP CABIN DOOR CLOSED WHEN ENGINES OR GENERATOR ARE RUNNING

⚠ WARNING ⚠
DO NOT USE SWIM PLATFORM OR SWIM LADDER WHILE THE ENGINE(S) ARE RUNNING.
STOP ENGINES IF SKIERS / SWIMMERS ARE ATTEMPTING TO BOARD.
PROPS COULD CAUSE PERSONAL INJURY.

Identification Labels

The following labels identify the location or operating procedure of certain items on your 42 Convertible that are designed to assist you and increase your yachting pleasure.


NMMA
YACHT CERTIFICATION
DESIGN COMPLIANCE WITH NMMA REQUIREMENTS IN EFFECT ON THE DATE OF CERTIFICATION IS VERIFIED. MANUFACTURER RESPONSIBLE FOR PRODUCTION CONTROL
NATIONAL MARINE MANUFACTURERS ASSOCIATION
THIS BOAT COMPLIES WITH U.S. COAST GUARD SAFETY STANDARDS IN EFFECT ON THE DATE OF CERTIFICATION
SILVERTON YACHTS, MILLVILLE NJ

NOTICE
AIR CONDITIONING CONDENSATION DRAINS INTO SHOWER SUMP.
MAKE SURE SHOWER SUMP CIRCUIT BREAKER IS TURNED ON WHEN OPERATING AIR CONDITIONING.

MAINTENANCE LOG

DATE	MAINTENANCE PERFORMED	HOURMETER

MAINTENANCE LOG

DATE	MAINTENANCE PERFORMED	HOURMETER

BOAT RECORD

The Boat Record is provided to record information about the yacht and its components. This record should be filled out by the selling Dealer at the time of delivery.

Owner's Name_____ Phone (____)_____

Adress_____

Dealer_____ Phone (____)_____

Address_____

Boat Name_____Hull Number* US STN_____

Delivery Date_____/_____/_____ Registration Number_____

Length_____ Beam_____ Draft_____

Approx. Displacement _____ lbs.

Approx. Height Above Waterline _____

DOCKSIDE INFORMATION

Fuel Capacity_____ Fuel Type_____ Fuel Filter_____

Engine Oil Type_____ Oil Filter_____

Generator Oil Type_____ Oil Filter_____

Transmission Oil Type_____ Oil Filter_____

ENGINE AND TRANSMISSION

Engine Mfr._____ Model_____

Engine Serial no. Port_____ Stbd._____

Transmission Mfr._____ Model_____

Transmission Serial No. Port_____ Stbd._____

GENERATOR

Manufactuer_____Model No._____Serial No._____

PROPELLER AND SHAFTS

Propeller Mfr._____ Model _____

No. Blades_____ Bore _____ Diameter_____ Pitch_____ Cupped_____

Shaft Length_____ Diameter_____

BATTERIES

Battery Mfr. _____ Model_____

Rating: Engine_____ Generator _____

* The Hull Identification Number is located on the outside of the transom, on the starboard side, upper corner.

Note: The following is provided for your use in recording electronic equipment wich you may add to your yacht. All equipment should be recorded so that the information is available in case of repair or for any insurance claim.

Electronic Equipment

Item:_____

Manufactuer_____Model no._____Serial no._____

Item:_____

Manufactuer_____Model no._____Serial no._____

Item:_____

Manufactuer_____Model no._____Serial no._____

Item:_____

Manufactuer_____Model no._____Serial no._____

Item:_____

Manufactuer_____Model no._____Serial no._____

Item:_____

Manufactuer_____Model no._____Serial no._____

Item:_____

Manufactuer_____Model no._____Serial no._____

Item:_____

Manufactuer_____Model no._____Serial no._____

Item:_____

Manufactuer_____Model no._____Serial no._____

Item:_____

Manufactuer_____Model no._____Serial no._____

Item:_____

Manufactuer_____Model no._____Serial no._____

Item:_____

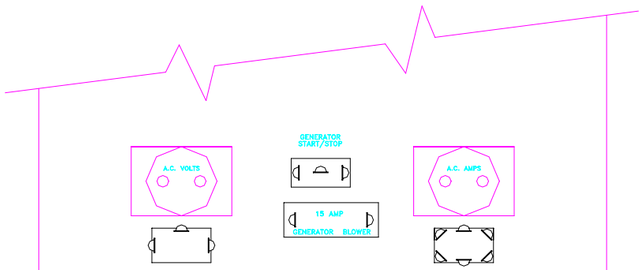
Manufactuer_____Model no._____Serial no._____

Item:_____

Manufactuer_____Model no._____Serial no._____

Item:_____

Manufactuer_____Model no._____Serial no._____



REFER TO DETAILS FOR PROPER METER WIRING

GENERATOR

30 AMP L2 | 30 AMP L1 | 30 AMP LO | 50 AMP L2 | 50 AMP L1 | 50 AMP LO

SHORE POWER

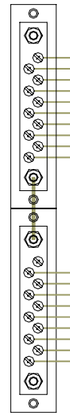
MID OUTLETS 15 AMP
EXTERIOR OUTLETS 15 AMP
SALON STEREO 15 AMP
WATER HEATER 20 AMP
MID AIR COND. 25 AMP
AIR PUMP 10 AMP
RANGE 20 AMP
PLUG
PLUG

CONVERTER 25 AMP
FWD OUTLETS 15 AMP
SALON OUTLETS 15 AMP
MICROWAVE 15 AMP
FWD AIR COND. 25 AMP
ICEMAKER 25 AMP
VACUUM SYSTEM 15 AMP
PLUG
PLUG

BLACK – 10 (CONVERTER 10 – 3 ROMEX)
BLACK – 14 (FWD OUTLETS 14 – 3 ROMEX)
BLACK – 14 (SALON OUTLETS 14 – 3 ROMEX)
BLACK – 14 (MICROWAVE 14 – 3 ROMEX)
BLACK – 10 (FWD AIR UNIT 10 – 3 ROMEX) ** SEE SCHEMATIC ON AIR CONDITIONING SYSTEM
BLACK – 10 (ICEMAKER 14 – 3 ROMEX) ** SEE SCHEMATIC ON AIR CONDITIONING SYSTEM
BLACK – 10 (VACUUM SYSTEM 14 – 3 ROMEX)

BLACK – 14 (MID OUTLETS 14 – 3 ROMEX)
BLACK – 14 (EXTERIOR OUTLETS 14 – 3 ROMEX)
BLACK – 14 (SALON STEREO 14 – 3 ROMEX)
BLACK – 10 (WATER HEATER 10 – 3 ROMEX)
BLACK – 10 (MID AIR UNIT 10 – 3 ROMEX) ** SEE SCHEMATIC ON AIR CONDITIONING SYSTEM
BLACK – 14 (AIR PUMP 10 – 3 ROMEX) ** SEE SCHEMATIC ON AIR CONDITIONING SYSTEM
BLACK – 10 (RANGE 10 – 3 ROMEX) ** SEE SCHEMATIC ON OPTIONAL PROPANE STOVE

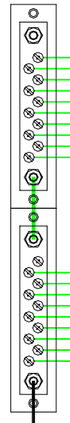
NEUTRAL BAR LOCATED BEHIND PANEL



WHITE – 10 (CONVERTER 10 – 3 ROMEX)
WHITE – 14 (FWD OUTLETS 14 – 3 ROMEX)
WHITE – 14 (AFT OUTLETS 14 – 3 ROMEX)
WHITE – 14 (MICROWAVE 14 – 3 ROMEX)
WHITE – 14 (ICEMAKER 14 – 3 ROMEX)
WHITE – 10 (FWD AIR UNIT 10 – 3 ROMEX)
WHITE – 10 (AFT AIR UNIT 10 – 3 ROMEX)
WHITE – 14 (VACUUM SYSTEM 14 – 3 ROMEX)
OPTION
OPTION

WHITE – 14 (MID OUTLETS 14 – 3 ROMEX)
WHITE – 14 (EXTERIOR OUTLETS 14 – 3 ROMEX)
WHITE – 14 (SALON STEREO 14 – 3 ROMEX)
WHITE – 10 (WATER HEATER 10 – 3 ROMEX)
WHITE – 10 (MID AIR UNIT 10 – 3 ROMEX)
WHITE – 14 (AIR PUMP 14 – 3 ROMEX)
WHITE – 10 (RANGE 10 – 3 ROMEX)
OPTION
OPTION

EARTH BAR LOCATED BEHIND PANEL



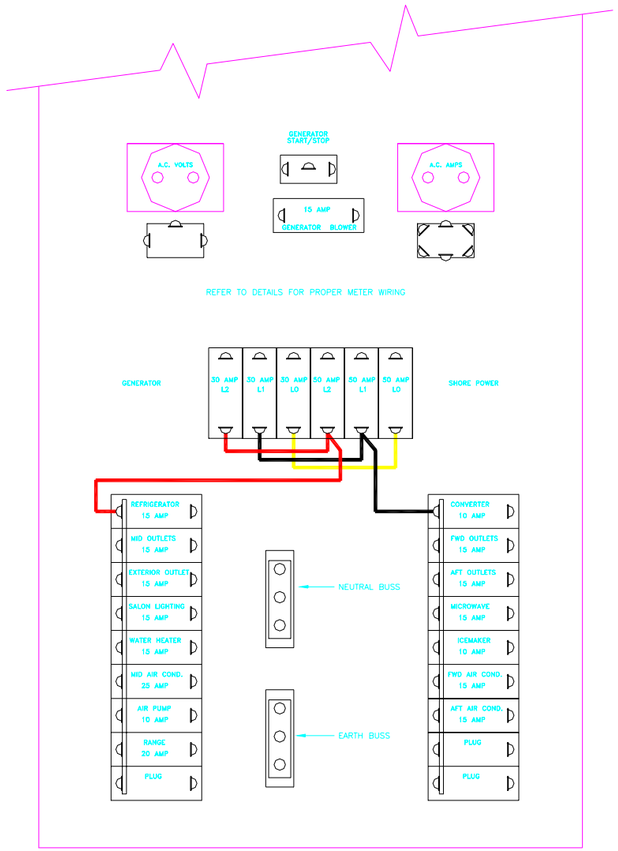
GREEN – 10 (CONVERTER 10 – 3 ROMEX)
GREEN – 14 (FWD OUTLETS 14 – 3 ROMEX)
GREEN – 14 (AFT OUTLETS 14 – 3 ROMEX)
GREEN – 14 (MICROWAVE 14 – 3 ROMEX)
GREEN – 14 (ICEMAKER 14 – 3 ROMEX)
GREEN – 10 (FWD AIR UNIT 10 – 3 ROMEX)
GREEN – 10 (AFT AIR UNIT 10 – 3 ROMEX)
OPTION
OPTION
OPTION

GREEN – 14 (MID OUTLETS 14 – 3 ROMEX)
GREEN – 14 (EXTERIOR OUTLETS 14 – 3 ROMEX)
GREEN – 14 (SALON LIGHTING 14 – 3 ROMEX)
GREEN – 10 (WATER HEATER 10 – 3 ROMEX)
GREEN – 10 (MID AIR UNIT 10 – 3 ROMEX)
GREEN – 14 (AIR PUMP 14 – 3 ROMEX)
GREEN – 10 (RANGE 10 – 3 ROMEX)
OPTION
OPTION

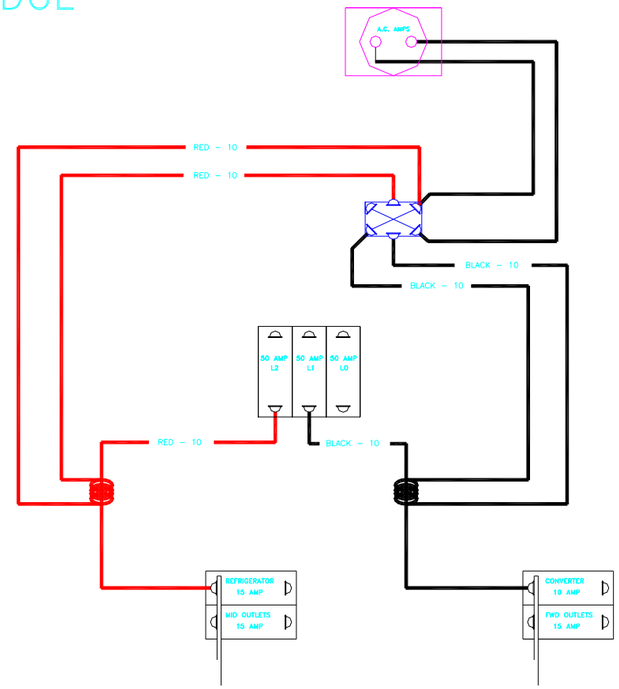
TO D.C GROUND BAR
SAFETY GROUND

A.C MAIN PANEL
A.C OUTPUT
410 SPORT BRIDGE

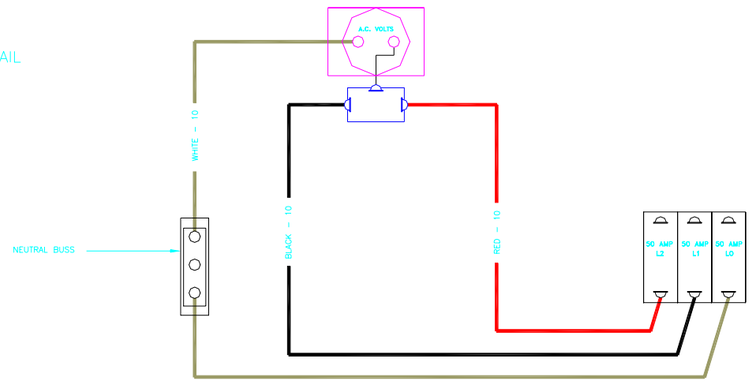
A.C MAIN PANEL
AMP / VOLTMETER DETAIL
410 SPORT BRIDGE



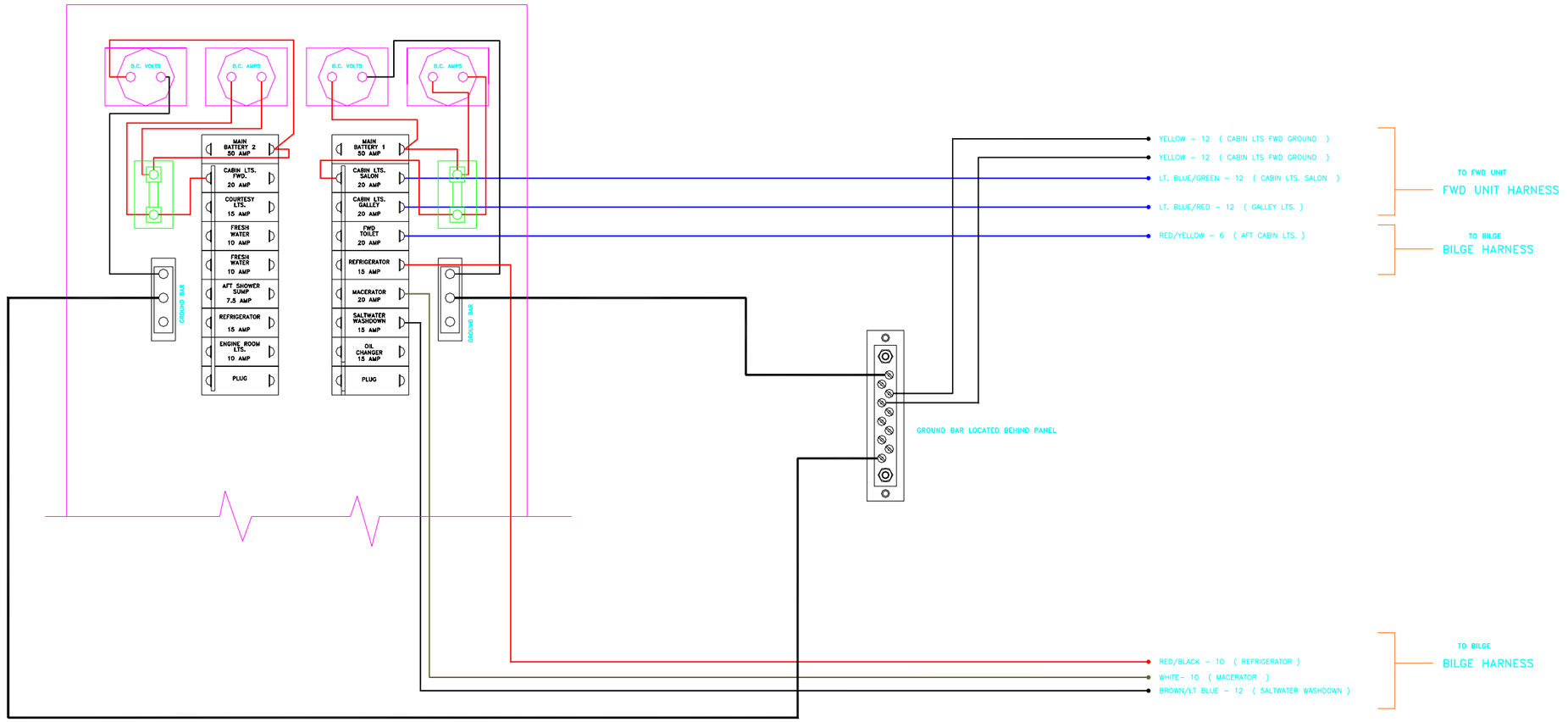
A.C AMPMETER WIRING DETAIL



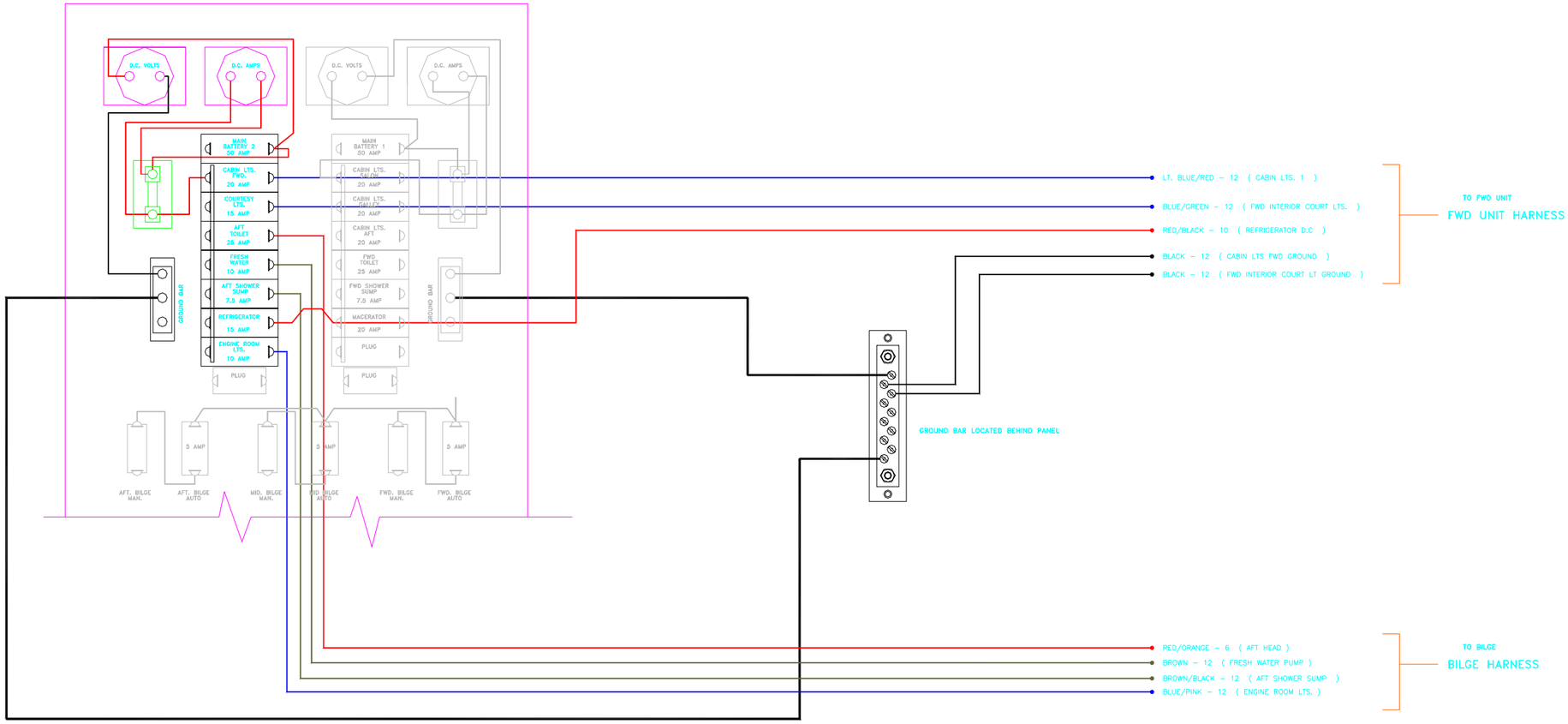
A.C VOLTMETER WIRING DETAIL



NOTE: ALL A.C WIRING TO BE NO. L1 , L2 , LO , ON CORRESPONDING CONDUCTORS

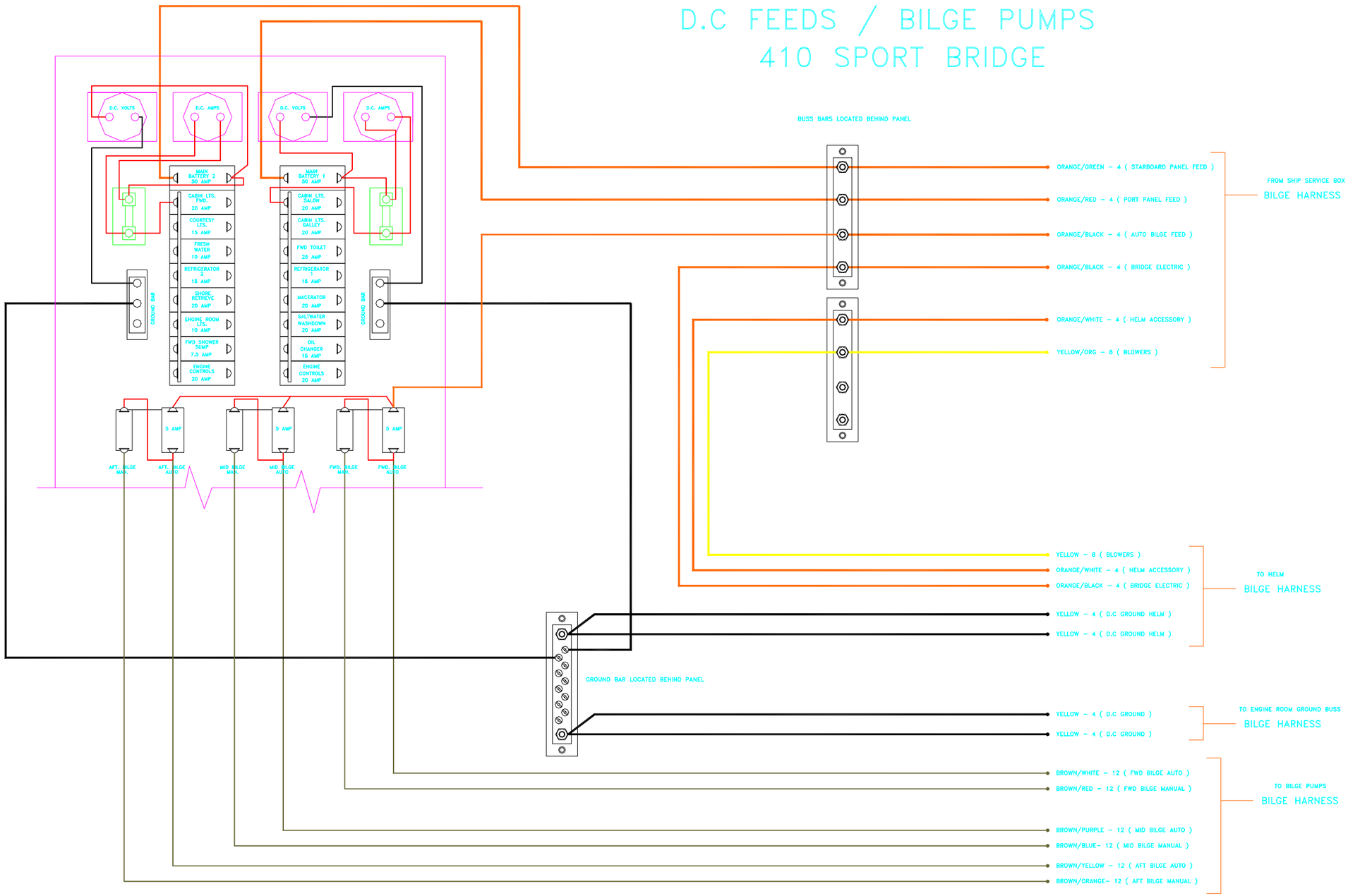

D.C. VOLTS
D.C. AMPS
D.C. VOLTS
D.C. AMPS
MAIN BATTERY 2 50 AMP
CABIN LTS. FWD. 20 AMP
COURTESY LTS. 15 AMP
FRESH WATER 10 AMP
FRESH WATER 10 AMP
AFT SHOWER SUMP 7.5 AMP
REFRIGERATOR 15 AMP
ENGINE ROOM LTS. 10 AMP
PLUG
MAIN BATTERY 1 50 AMP
CABIN LTS. SALON 20 AMP
CABIN LTS. GALLEY 20 AMP
FWD TOILET 20 AMP
REFRIGERATOR 15 AMP
MACERATOR 20 AMP
SALTWATER WASHDOWN 15 AMP
OIL CHANGER 15 AMP
PLUG
GROUND BAR
GROUND BAR
GROUND BAR LOCATED BEHIND PANEL
YELLOW – 12 (CABIN LTS FWD GROUND)
YELLOW – 12 (CABIN LTS FWD GROUND)
LT. BLUE/GREEN – 12 (CABIN LTS. SALON)
LT. BLUE/RED – 12 (GALLEY LTS.)
RED/YELLOW – 6 (AFT CABIN LTS.)
TO FWD UNIT
FWD UNIT HARNESS
TO BILGE
BILGE HARNESS
RED/BLACK – 10 (REFRIGERATOR)
WHITE– 10 (MACERATOR)
BROWN/LT BLUE – 12 (SALTWATER WASHDOWN)
TO BILGE
BILGE HARNESS

D.C MAIN PANEL
BATTERY 1 LOAD DETAIL
410 SPORT BRIDGE


D.C. VOLTS
D.C. AMPS
D.C. VOLTS
D.C. AMPS
MAIN BATTERY 2 50 AMP
CABIN LTS. SALON 20 AMP
COURTESY LTS. 15 AMP
AFT TOILET 25 AMP
FRESH WATER 10 AMP
AFT SHOWER SUMP 7.5 AMP
REFRIGERATOR 15 AMP
ENGINE ROOM LTS. 10 AMP
PLUG
MAIN BATTERY 1 50 AMP
CABIN LTS. SALON 20 AMP
CABIN LTS. GALLEY 20 AMP
CABIN LTS. AFT 20 AMP
FWD TOILET 25 AMP
FWD SHOWER SUMP 7.5 AMP
MACERATOR 20 AMP
PLUG
PLUG
GROUND BAR
GROUND BAR
5 AMP
5 AMP
5 AMP
AFT. BILGE MAN.
AFT. BILGE AUTO
MID. BILGE MAN.
MID. BILGE AUTO
FWD. BILGE MAN.
FWD. BILGE AUTO
GROUND BAR LOCATED BEHIND PANEL
LT. BLUE/RED – 12 (CABIN LTS. 1)
BLUE/GREEN – 12 (FWD INTERIOR COURT LTS.)
RED/BLACK – 10 (REFRIGERATOR D.C)
BLACK – 12 (CABIN LTS FWD GROUND)
BLACK – 12 (FWD INTERIOR COURT LT GROUND)
TO FWD UNIT
FWD UNIT HARNESS
RED/ORANGE – 6 (AFT HEAD)
BROWN – 12 (FRESH WATER PUMP)
BROWN/BLACK – 12 (AFT SHOWER SUMP)
BLUE/PINK – 12 (ENGINE ROOM LTS.)
TO BILGE
BILGE HARNESS

D.C MAIN PANEL
BATTERY 2 LOAD DETAIL
410 SPORT BRIDGE

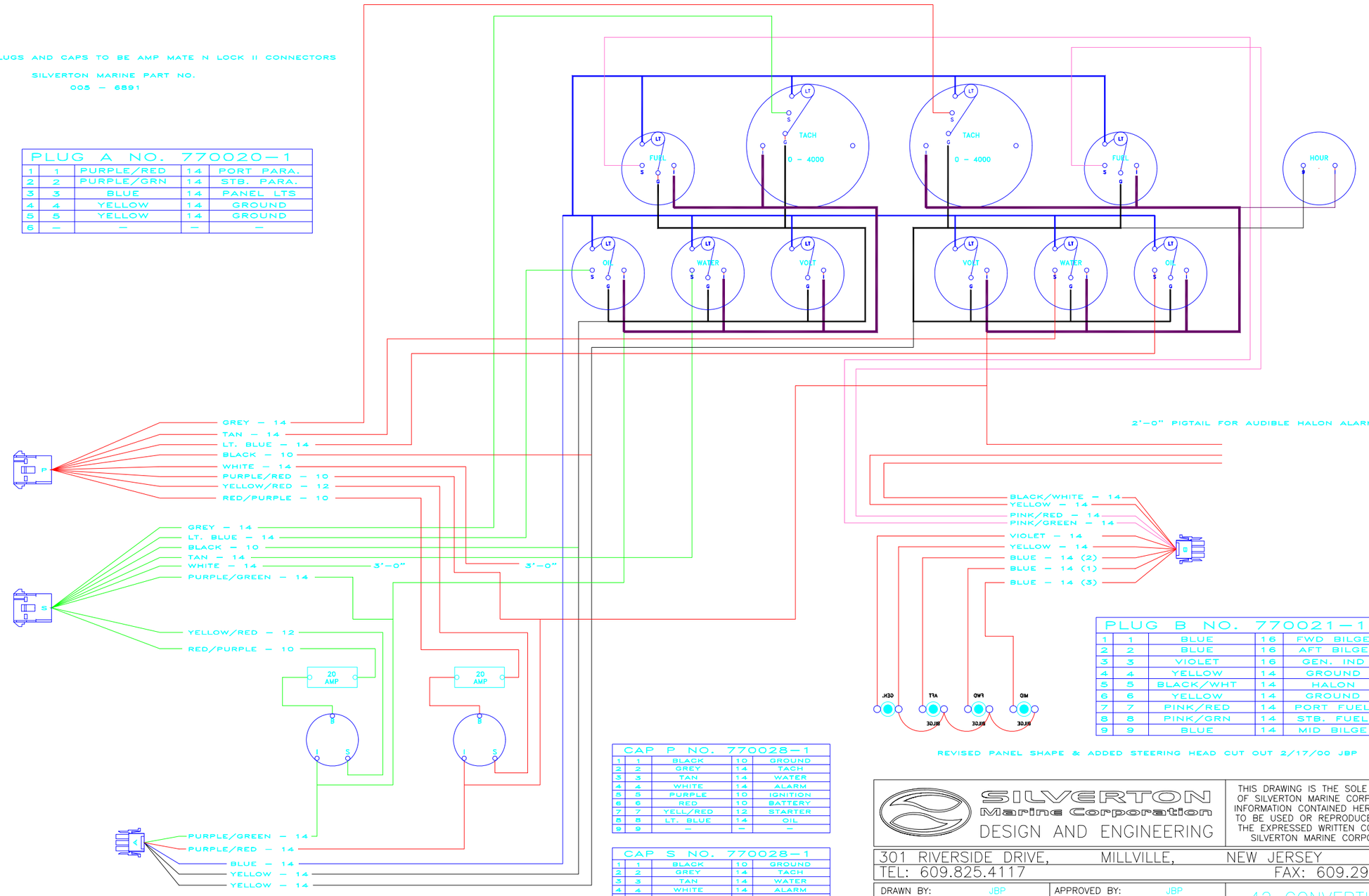
D.C MAIN PANEL
D.C FEEDS / BILGE PUMPS
410 SPORT BRIDGE


BUSS BARS LOCATED BEHIND PANEL
D.C. VOLTS
D.C. AMPS
D.C. VOLTS
D.C. AMPS
MAIN BATTERY 2 50 AMP
CABIN LTS. FWD. 20 AMP
COURTESY LTS. 15 AMP
FRESH WATER 10 AMP
REFRIGERATOR 2 15 AMP
SHORE RETRIEVE 20 AMP
ENGINE ROOM LTS. 10 AMP
FWD SHOWER SUMP 7.5 AMP
ENGINE CONTROLS 20 AMP
MAIN BATTERY 1 50 AMP
CABIN LTS. SALON 20 AMP
CABIN LTS. GALLEY 20 AMP
FWD TOILET 25 AMP
REFRIGERATOR 1 15 AMP
MACERATOR 20 AMP
SALTWATER WASHDOWN 20 AMP
OIL CHANGER 15 AMP
ENGINE CONTROLS 20 AMP
GROUND BAR
GROUND BAR
5 AMP
5 AMP
5 AMP
AFT. BILGE MAN.
AFT. BILGE AUTO
MID. BILGE MAN.
MID. BILGE AUTO
FWD. BILGE MAN.
FWD. BILGE AUTO
ORANGE/GREEN – 4 (STARBOARD PANEL FEED)
ORANGE/RED – 4 (PORT PANEL FEED)
ORANGE/BLACK – 4 (AUTO BILGE FEED)
ORANGE/BLACK – 4 (BRIDGE ELECTRIC)
ORANGE/WHITE – 4 (HELM ACCESSORY)
YELLOW/ORG – 8 (BLOWERS)
FROM SHIP SERVICE BOX
BILGE HARNESS
YELLOW – 8 (BLOWERS)
ORANGE/WHITE – 4 (HELM ACCESSORY)
ORANGE/BLACK – 4 (BRIDGE ELECTRIC)
TO HELM
BILGE HARNESS
YELLOW – 4 (D.C GROUND HELM)
YELLOW – 4 (D.C GROUND HELM)
GROUND BAR LOCATED BEHIND PANEL
YELLOW – 4 (D.C GROUND)
YELLOW – 4 (D.C GROUND)
TO ENGINE ROOM GROUND BUSS
BILGE HARNESS
BROWN/WHITE – 12 (FWD BILGE AUTO)
BROWN/RED – 12 (FWD BILGE MANUAL)
BROWN/PURPLE – 12 (MID BILGE AUTO)
BROWN/BLUE– 12 (MID BILGE MANUAL)
BROWN/YELLOW – 12 (AFT BILGE AUTO)
BROWN/ORANGE– 12 (AFT BILGE MANUAL)
TO BILGE PUMPS
BILGE HARNESS

ALL PLUGS AND CAPS TO BE AMP MATE N LOCK II CONNECTORS

SILVERTON MARINE PART NO.
005 – 6891

PLUG A NO. 770020–1				
1	1	PURPLE/RED	14	PORT PARA.
2	2	PURPLE/GRN	14	STB. PARA.
3	3	BLUE	14	PANEL LTS
4	4	YELLOW	14	GROUND
5	5	YELLOW	14	GROUND
6	–	–	–	–



CAP P NO. 770028–1				
1	1	BLACK	10	GROUND
2	2	GREY	14	TACH
3	3	TAN	14	WATER
4	4	WHITE	14	ALARM
5	5	PURPLE	10	IGNITION
6	6	RED	10	BATTERY
7	7	YELL/RED	12	STARTER
8	8	LT. BLUE	14	OIL
9	9	–	–	–

CAP S NO. 770028–1				
1	1	BLACK	10	GROUND
2	2	GREY	14	TACH
3	3	TAN	14	WATER
4	4	WHITE	14	ALARM
5	5	PURPLE	10	IGNITION
6	6	RED	10	BATTERY
7	7	YELL/RED	12	STARTER
8	8	LT. BLUE	14	OIL
9	9	–	–	–

PLUG B NO. 770021–1				
1	1	BLUE	16	FWD BILGE
2	2	BLUE	16	AFT BILGE
3	3	VIOLET	16	GEN. IND
4	4	YELLOW	14	GROUND
5	5	BLACK/WHT	14	HALON
6	6	YELLOW	14	GROUND
7	7	PINK/RED	14	PORT FUEL
8	8	PINK/GRN	14	STB. FUEL
9	9	BLUE	14	MID BILGE

REVISED PANEL SHAPE & ADDED STEERING HEAD CUT OUT 2/17/00 JBP

SILVERTON Marine Corporation
DESIGN AND ENGINEERING

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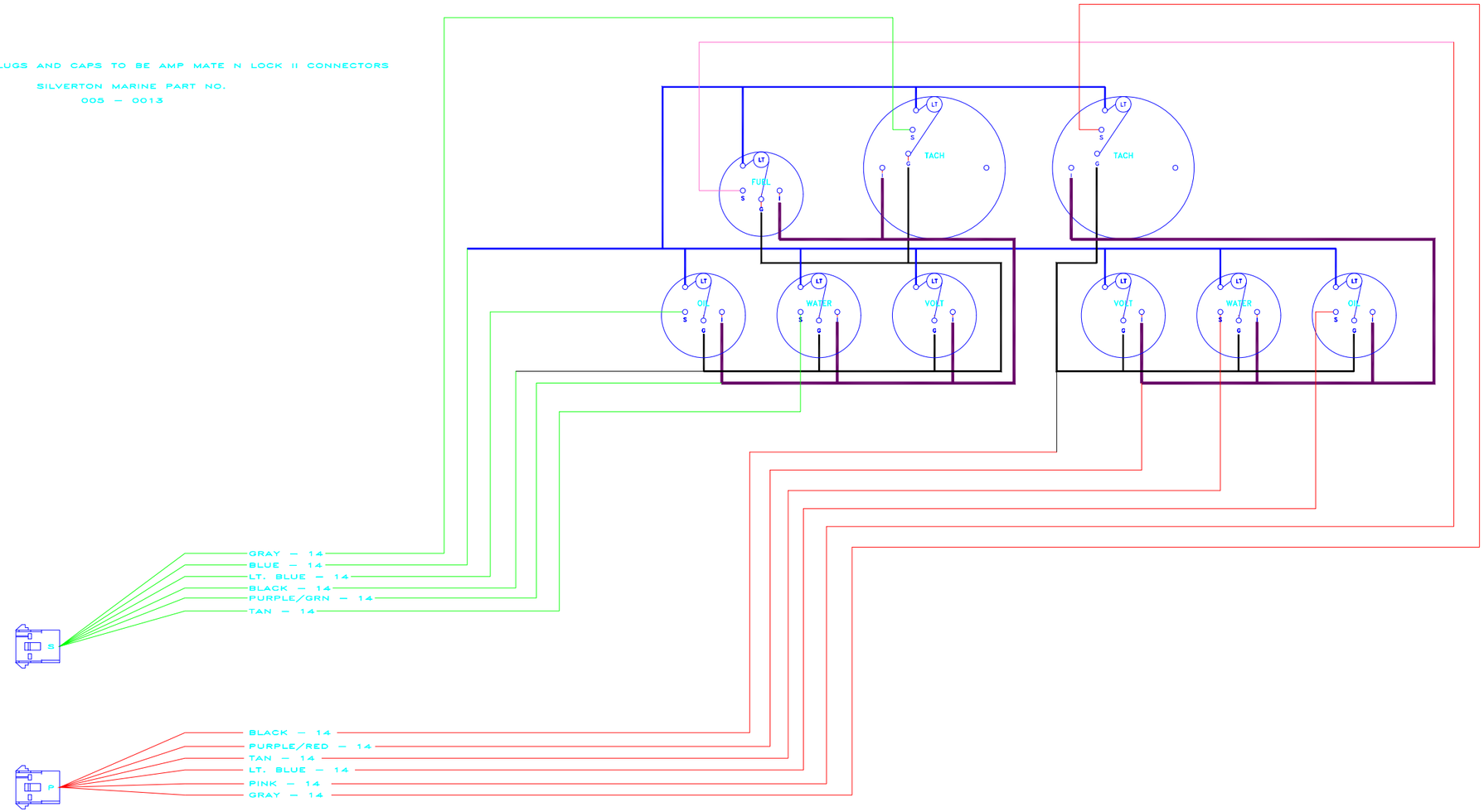
301 RIVERSIDE DRIVE, MILLVILLE, NEW JERSEY 08332
TEL: 609.825.4117 FAX: 609.293.8025

DRAWN BY: JBP		APPROVED BY: JBP	42 CONVERTIBLE
SCALE: NO		DATE: 7/22/99	UPPER GAUGE PANEL
DATE	DISTRIBUTION	DATE REVISIONS	DWG NO.: E42C002099D
			SHEET NO.: 2 OF 2

ALL PLUGS AND CAPS TO BE AMP MATE N LOCK II CONNECTORS

SILVERTON MARINE PART NO.
005 – 0013



CAP P NO. 770027-1			
1	BLACK	14	GROUND
2	GREY	14	TACH
3	TAN	14	WATER
4	PINK	14	FUEL
5	PURPLE/RED	14	IGNITION
6	LT. BLUE	14	OIL

CAP S NO. 770027-1			
1	BLACK	14	GROUND
2	GREY	14	TACH
3	TAN	14	WATER
4	BLUE	14	PANEL LTS.
5	PURPLE/GRN	14	IGNITION
6	LT. BLUE	14	OIL

SILVERTON Marine Corporation
DESIGN AND ENGINEERING
301 RIVERSIDE DRIVE, MILLVILLE, NEW JERSEY 08332
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SCALE:	NO	DATE:	12/14/99

DATE	DISTRIBUTION	DATE	REVISIONS

410 SPORT BRIDGE

UPPER GAUGE PANEL

DWG NO.: E40S001399D

SHEET NO.: 2 OF 2

BATTERY SWITCH
1

BATTERY SWITCH
2

PARALLEL SOLENOID

TO PARALLEL START SWITCH AT HELM
BILGE HARNESS

RED/WHITE – 14 (PARALLEL START)

YELLOW – 14 (PARALLEL GROUND)

GROUND BUSS
LOCATED IN BILGE

BATTERIES WIRED IN PARALLEL

PORT BATTERY

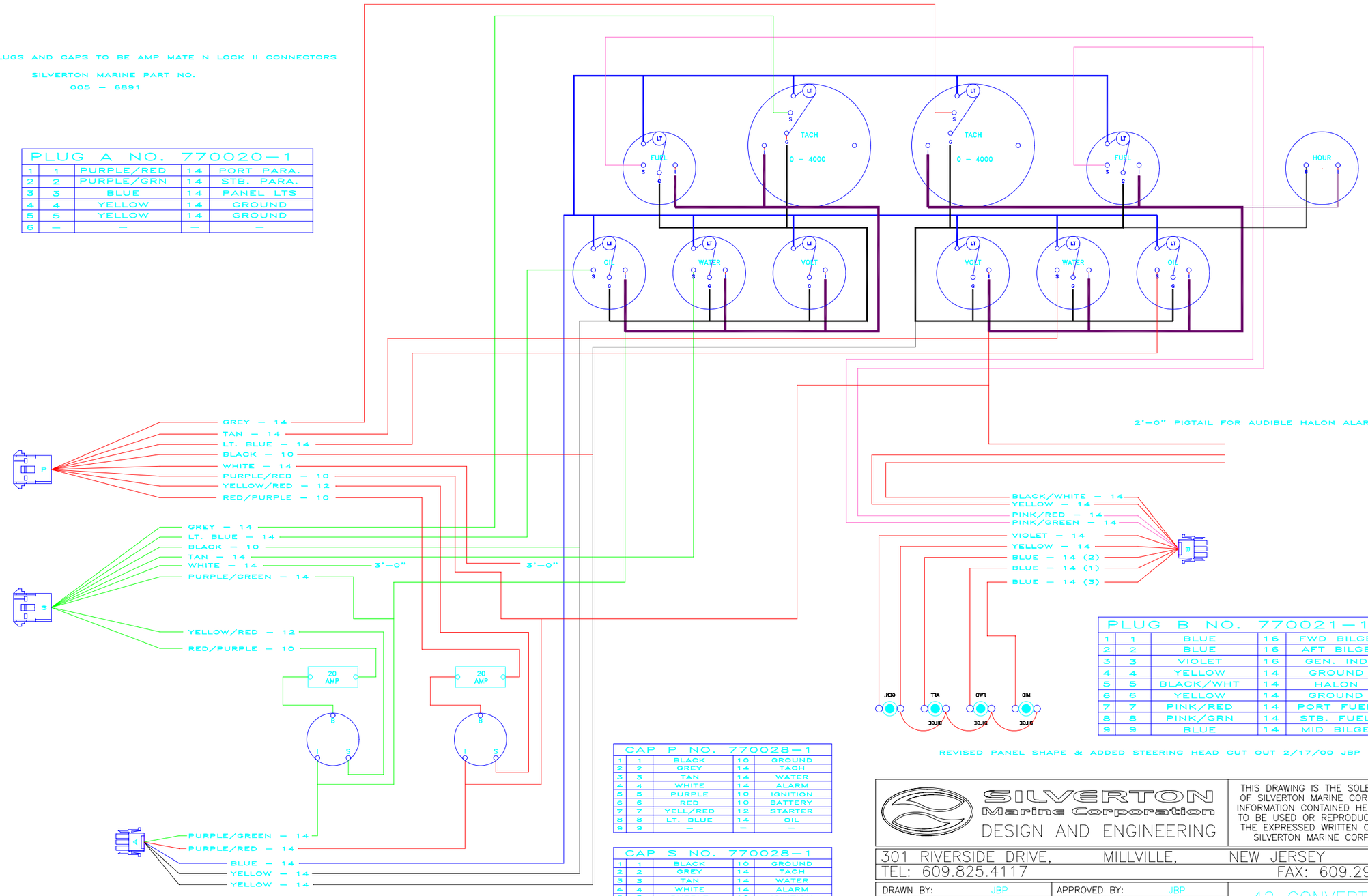
STARBOARD BATTERY

ENGINE BATTERY SYSTEM
410 SPORT BRIDGE

ALL PLUGS AND CAPS TO BE AMP MATE N LOCK II CONNECTORS

SILVERTON MARINE PART NO.
005 – 6891

PLUG A NO. 770020–1				
1	1	PURPLE/RED	14	PORT PARA.
2	2	PURPLE/GRN	14	STB. PARA.
3	3	BLUE	14	PANEL LTS
4	4	YELLOW	14	GROUND
5	5	YELLOW	14	GROUND
6	–	–	–	–



CAP P NO. 770028–1				
1	1	BLACK	10	GROUND
2	2	GREY	14	TACH
3	3	TAN	14	WATER
4	4	WHITE	14	ALARM
5	5	PURPLE	10	IGNITION
6	6	RED	10	BATTERY
7	7	YELL/RED	12	STARTER
8	8	LT. BLUE	14	OIL
9	9	–	–	–

CAP S NO. 770028–1				
1	1	BLACK	10	GROUND
2	2	GREY	14	TACH
3	3	TAN	14	WATER
4	4	WHITE	14	ALARM
5	5	PURPLE	10	IGNITION
6	6	RED	10	BATTERY
7	7	YELL/RED	12	STARTER
8	8	LT. BLUE	14	OIL
9	9	–	–	–

PLUG B NO. 770021–1				
1	1	BLUE	16	FWD BILGE
2	2	BLUE	16	AFT BILGE
3	3	VIOLET	16	GEN. IND
4	4	YELLOW	14	GROUND
5	5	BLACK/WHT	14	HALON
6	6	YELLOW	14	GROUND
7	7	PINK/RED	14	PORT FUEL
8	8	PINK/GRN	14	STB. FUEL
9	9	BLUE	14	MID BILGE

REVISED PANEL SHAPE & ADDED STEERING HEAD CUT OUT 2/17/00 JBP

SILVERTON Marine Corporation
DESIGN AND ENGINEERING

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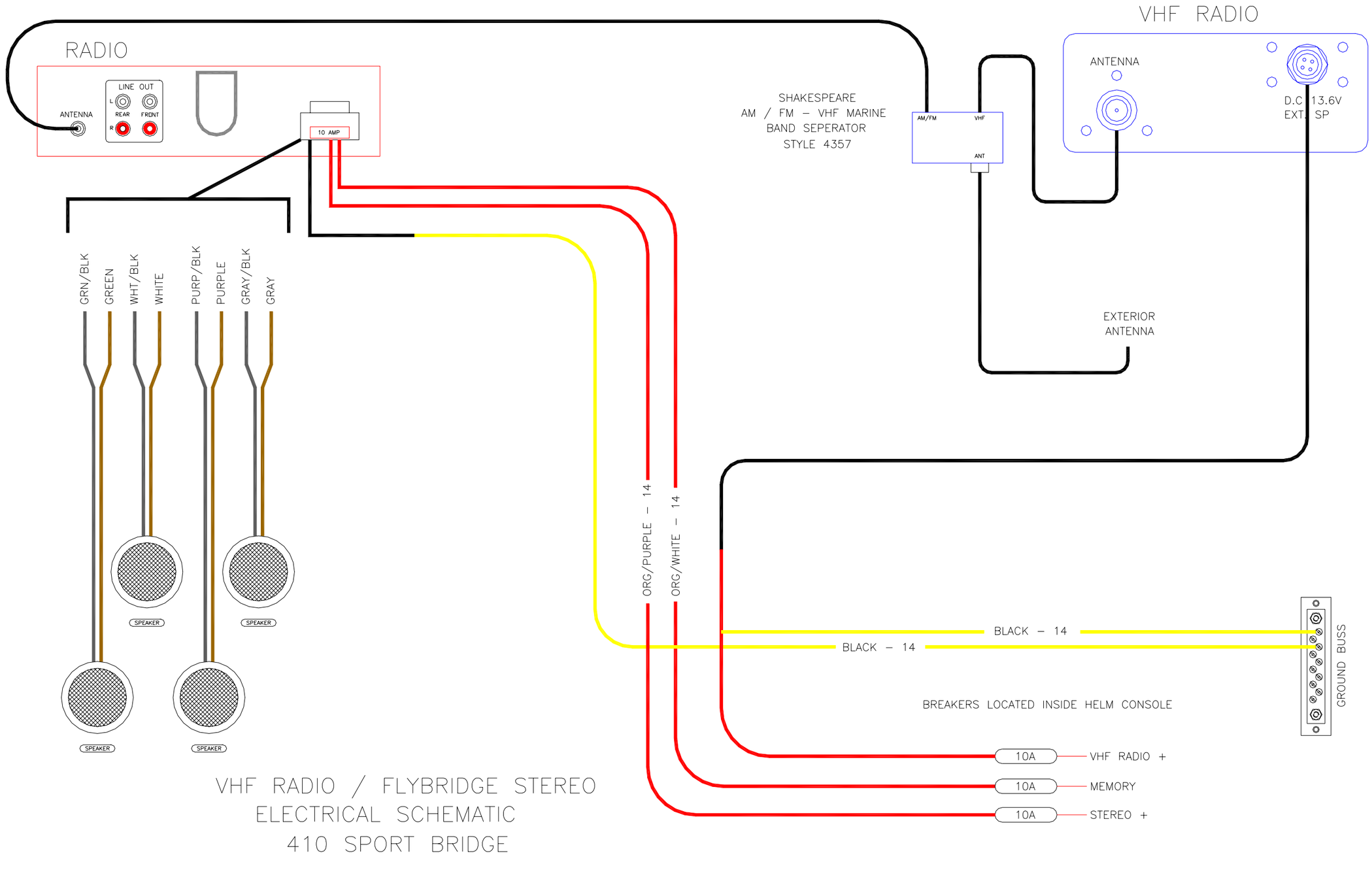
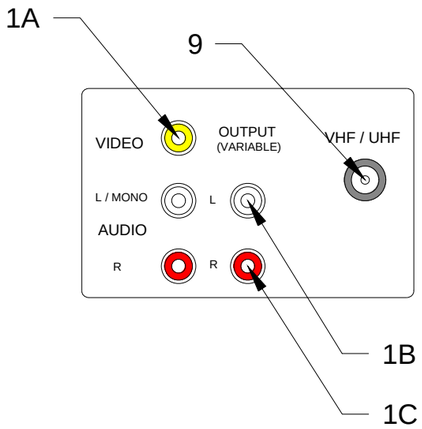
DRAWN BY:	JBP	APPROVED BY:	JBP
SCALE:	NO	DATE:	7/22/99

DATE	DISTRIBUTION	DATE	REVISIONS

42 CONVERTIBLE
UPPER GAUGE PANEL
DWG NO.: E42C002099D
SHEET NO.: 2 OF 2

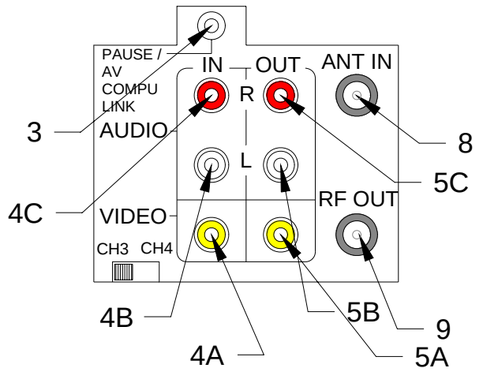


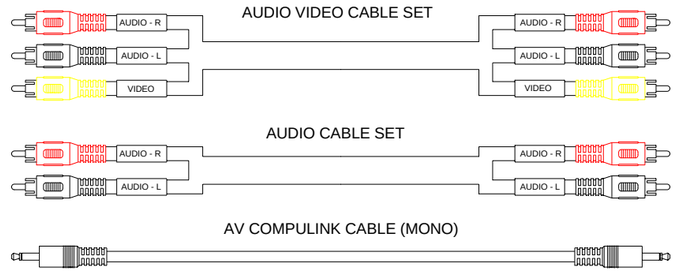
VHF RADIO / FLYBRIDGE STEREO
ELECTRICAL SCHEMATIC
410 SPORT BRIDGE



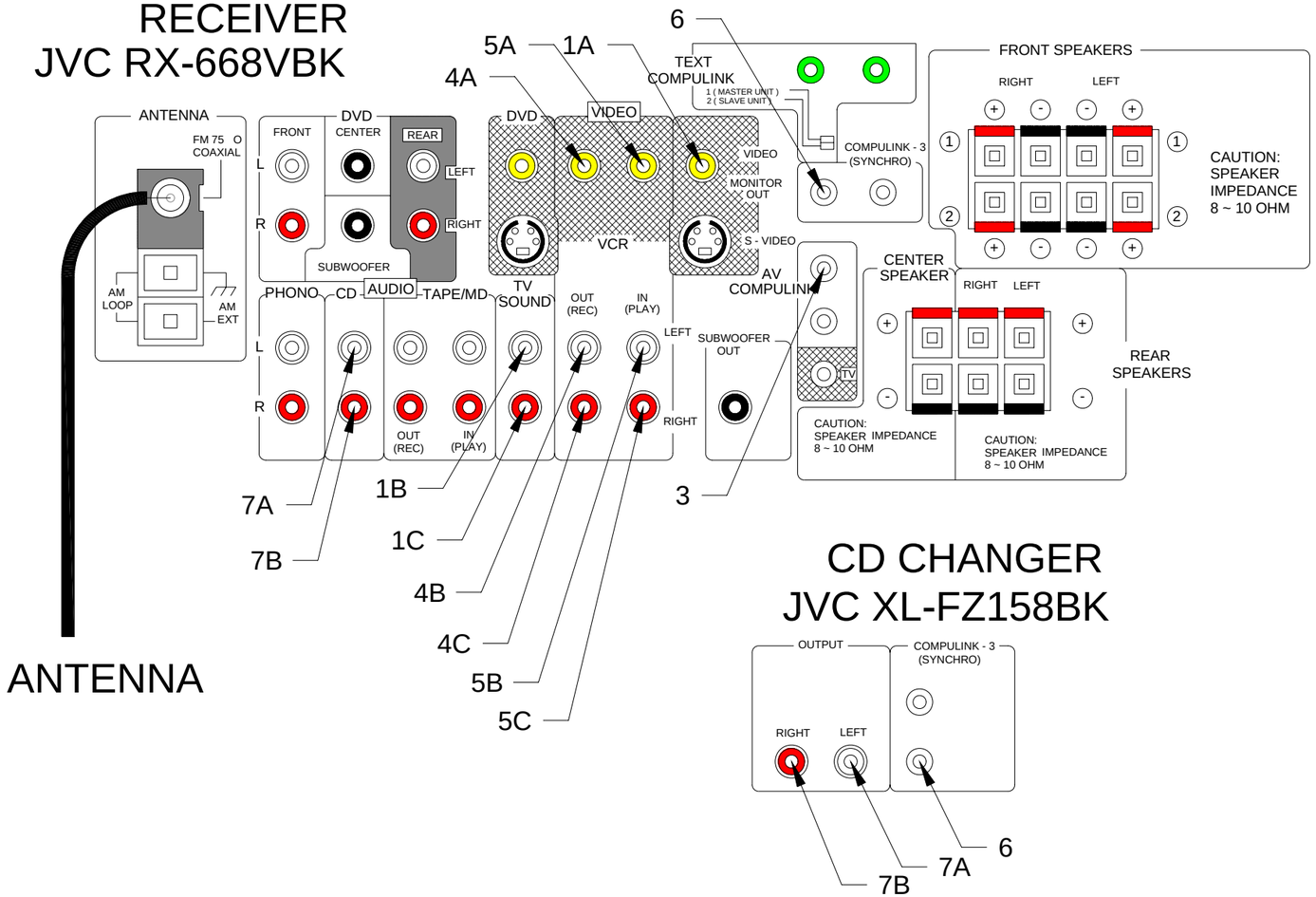
TELEVISION
JVC AV-20020

VCR
JVC HR-VP674U





RECEIVER
JVC RX-668VBK



CD CHANGER
JVC XL-FZ158BK

RECEIVER TO TELEVISION CONNECTIONS

WIRE NO.	CABLE TYPE	FROM RECEIVER	TO TELEVISION
1A	AUDIO VIDEO CABLE SET	MONITOR OUT	VIDEO INPUT
1B		TV SOUND LEFT	AUDIO OUT LEFT
1C		TV SOUND RIGHT	AUDIO OUT RIGHT

RECEIVER TO VCR CONNECTIONS

WIRE NO.	CABLE TYPE	FROM RECEIVER	TO VCR
3	AV COMPULINK CABLE	AV COMPULINK (TOP SOCKET ONLY)	PAUSE / AV COMPULINK
4A	AUDIO VIDEO CABLE SET	VCR VIDEO OUT	VIDEO IN
4B		VCR, OUT (REC), LEFT	AUDIO IN LEFT
4C		VCR, OUT (REC), RIGHT	AUDIO IN RIGHT
5A	AUDIO VIDEO CABLE SET	VCR VIDEO IN	VIDEO OUT
5B		VCR, IN (PLAY), LEFT	AUDIO OUT LEFT
5C		VCR, IN (PLAY), RIGHT	AUDIO OUT RIGHT

RECEIVER TO CD CHANGER CONNECTIONS

WIRE NO.	CABLE TYPE	FROM RECEIVER	TO CD CHANGER
6	AV COMPULINK CABLE	COMPULINK-3(SYNCHRO) (LEFT SOCKET ONLY)	COMPULINK-3(SYNCHRO) (BOTTOM SOCKET ONLY)
7A	AUDIO CABLE SET	CD LEFT	LEFT
7B		CD RIGHT	RIGHT

CABLE TV CABLE CONNECTIONS

WIRE NO.	CABLE TYPE	FROM	TO
8	COAXIAL TV CABLE	CABLE SOURCE	VCR ANT. IN
9	COAXIAL TV CABLE	VCR RF OUT	TV 75 OHM VHF / UHF

20" STEREO TV

JVC COMPONENT CONNECTIONS

410 SPORT BRIDGE

TO A.C MAIN PANEL
8 – 4 ROMEX CABLE

GENERATOR OUTPUT

BLACK / RED – 8 (LINE 2)

BLACK – 8 (LINE 1)

WHITE – 8 (NEUTRAL)

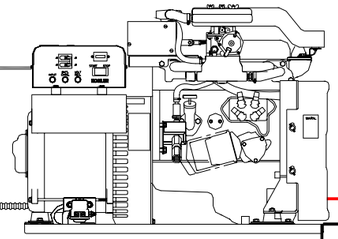
GREEN – 8 (EARTH)

CONVERTER OUTPUT
50A
BREAKER

BATTERY SWITCH
GENERATOR

LOCATED IN ENGINE ROOM

KOHLER GENSET



RED

RED

RED

FROM REMOTE START SWITCH

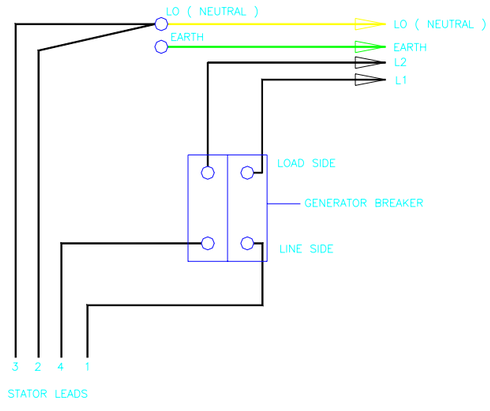
BILGE HARNESS

YELLOW / RED – 14 (GENERATOR START)

BLACK – 14 (GENERATOR GROUND)

GRAY / BLACK – 14 (GENERATOR STOP)

VIOLET – 14 (GENERATOR RUN INDICATOR)



YELLOW

RED

OPTIONAL GENERATOR BATTERY

FROM ENGINE BELL HOUSING

OPT. GENERATOR

YELLOW – 1 GA (GENERATOR GROUND)

FROM CONVERTER D.C OUTPUT

OPT. GENERATOR

RED – 8 (GENERATOR BATTERY CHARGE LEAD)

GENERATOR SCHEMATIC 240V 60HZ
410 SPORT BRIDGE

TO A.C MAIN PANEL
6 – 3 ROMEX CABLE

GENERATOR OUTPUT

BLACK – 8 (LINE 1)

WHITE – 8 (NEUTRAL)

GREEN – 8 (EARTH)

CONVERTER OUTPUT
50A
BREAKER

BATTERY SWITCH
GENERATOR

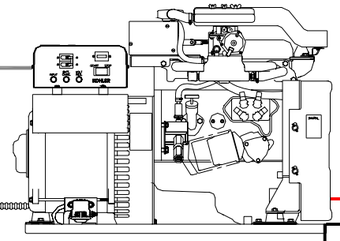
LOCATED IN ENGINE ROOM

RED

RED

RED

KOHLER GENSET



FROM REMOTE START SWITCH

BILGE HARNESS

YELLOW / RED – 14 (GENERATOR START)

BLACK – 14 (GENERATOR GROUND)

GRAY / BLACK – 14 (GENERATOR STOP)

VIOLET – 14 (GENERATOR RUN INDICATOR)

LO (NEUTRAL)

EARTH

L1

LOAD SIDE

GENERATOR BREAKER

LINE SIDE

3 1 4 2

STATOR LEADS

LO (NEUTRAL)

EARTH

YELLOW

RED

OPTIONAL GENERATOR BATTERY

FROM ENGINE BELL HOUSING

OPT. GENERATOR

YELLOW – 1 GA (GENERATOR GROUND)

FROM CONVERTER D.C OUTPUT

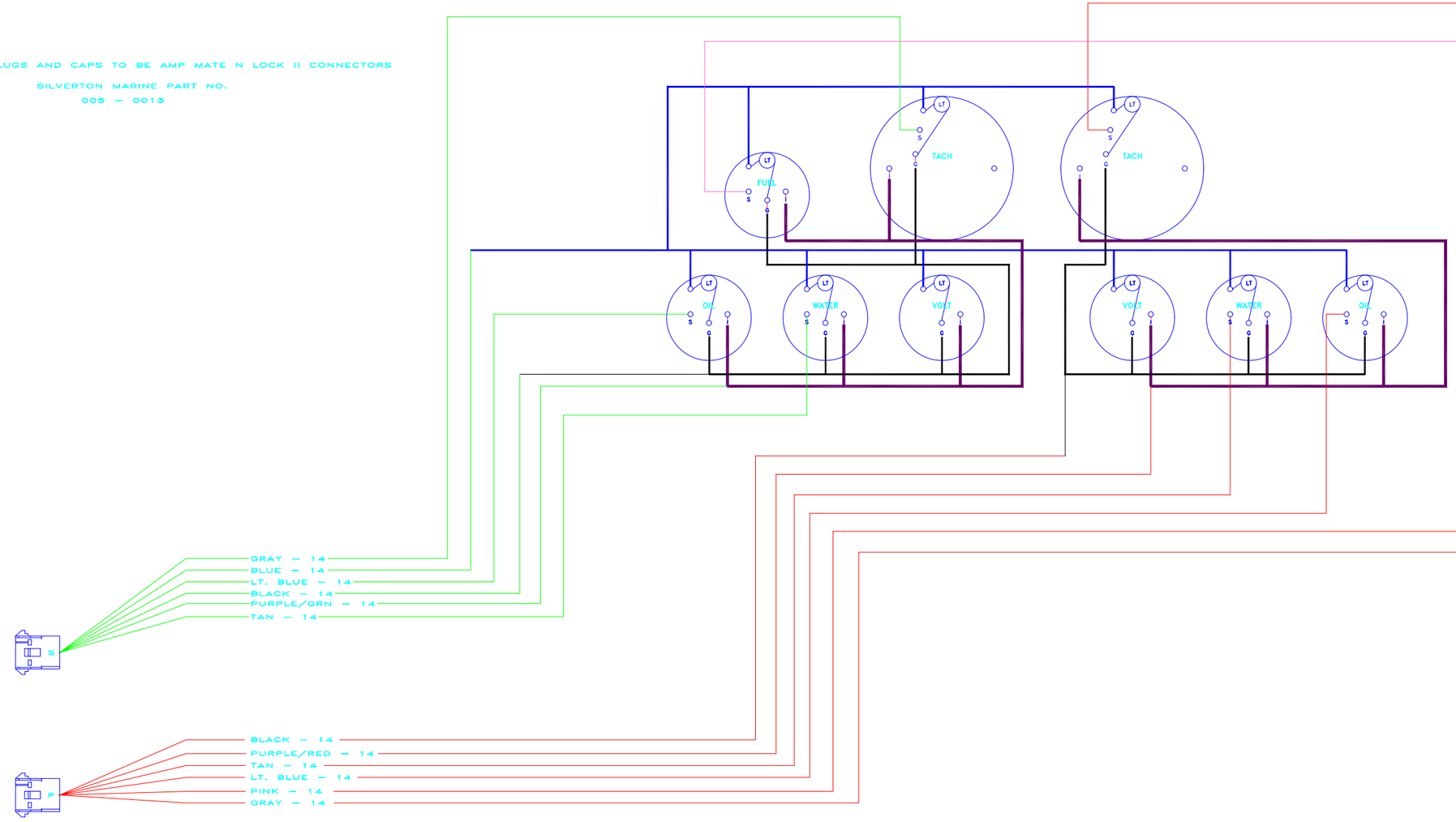
OPT. GENERATOR

RED – 8 (GENERATOR BATTERY CHARGE LEAD)

GENERATOR SCHEMATIC 220V 50HZ
410 SPORT BRIDGE

ALL PLUGS AND CAPS TO BE AMP MATE N LOCK II CONNECTORS

SILVERTON MARINE PART NO.
005 – 0013



CAP P NO. 770027–1

1	1	BLACK	14	GROUND
2	2	GREY	14	TACH
3	3	TAN	14	WATER
4	4	PINK	14	FUEL
5	5	PURPLE/RED	14	IGNITION
6	6	LT. BLUE	14	OIL

CAP S NO. 770027–1

1	1	BLACK	14	GROUND
2	2	GREY	14	TACH
3	3	TAN	14	WATER
4	4	BLUE	14	PANEL LTS.
5	5	PURPLE/GRN	14	IGNITION
6	6	LT. BLUE	14	OIL

SILVERTON Marine Corporation
DESIGN AND ENGINEERING
301 RIVERSIDE DRIVE, MILLVILLE, NEW JERSEY 08332
TEL: 609.825.4117 FAX: 609.293.8025

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SCALE:	NO	DATE:	12/14/99

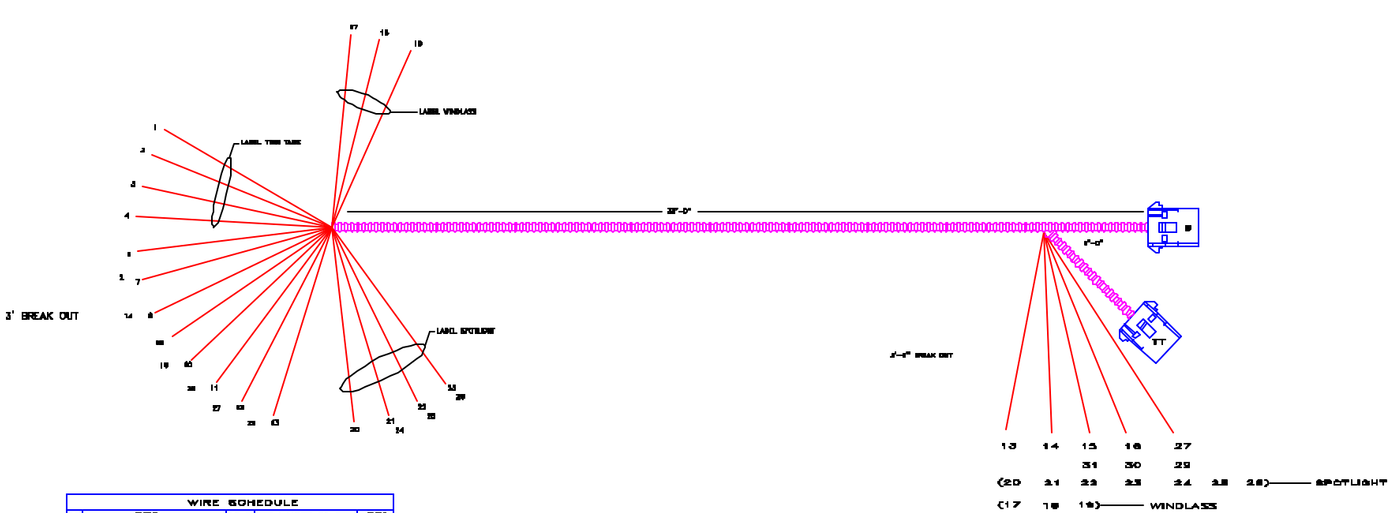
DATE	DISTRIBUTION	DATE	REVISIONS

410 SPORT BRIDGE

UPPER GAUGE PANEL

DWG NO.: E40S001399D

SHEET NO.: 2 OF 2



WIRE SCHEDULE				
1	RED	12	TRIM TAB	33'
2	GREEN	12	TRIM TAB	33'
3	BLUE	12	TRIM TAB	33'
4	YELLOW	12	TRIM TAB	33'
5	—	—	—	—
6	BLACK/WHT	14	HALON	23'
7	BLUE	14	FWD IND.	23'
8	BLUE	14	AFT IND.	23'
9	GRAY/YELL	12	TRANSOM LT	25'
10	VIOLET	14	GEN IND	33'
11	PINK	14	FUEL	33'
12	BLUE	14	MID IND.	23'
13	ORG/WHITE	4	HELM ACC.	35'
14	ORG/BLK	4	BRIDGE EL	25'
15	YEL/ORG	2	BLOWER	35'
16	ORANGE	2	MEMORY	25'
17	ORG/RED	12	WINDLASS	25'
18	ORANGE	12	WINDLASS	25'
19	ORG/GREEN	12	WINDLASS	35'
20	BLACK	12	SPOTLIGHT	25'
21	YELLOW	12	SPOTLIGHT	25'
22	ORANGE	12	SPOTLIGHT	25'
23	TAN	12	SPOTLIGHT	35'
24	GRAY	12	SPOTLIGHT	25'
25	BLUE	12	SPOTLIGHT	25'
26	GREEN	12	SPOTLIGHT	25'
27	YELLOW	4	GROUND	23'
28	RED/WHITE	14	PARALLEL	23'
29	YELLOW	4	GROUND	25'
30	YELLOW	14	GROUND	4'
31	YELLOW	14	GROUND	4'

CAP B NO. 770028-1				
1	7	BLUE	15	FWD BILGE
2	8	BLUE	16	AFT BILGE
3	10	VIOLET	16	GEN. IND
4	30	YELLOW	14	GROUND
5	6	BLACK/WHT	14	HALON
6	31	YELLOW	14	GROUND
7	11	PINK	14	FUEL
8	12	BLUE	14	MID IND.
9	28	RED/WHT	14	PARALLEL

CAP TT NO. 770026-1				
1	1	RED	12	TRIM TAB
2	2	YELLOW	12	TRIM TAB
3	3	BLUE	12	TRIM TAB
4	4	GREEN	12	TRIM TAB

SILVERTON MARINE PART NO.

005 — 0023

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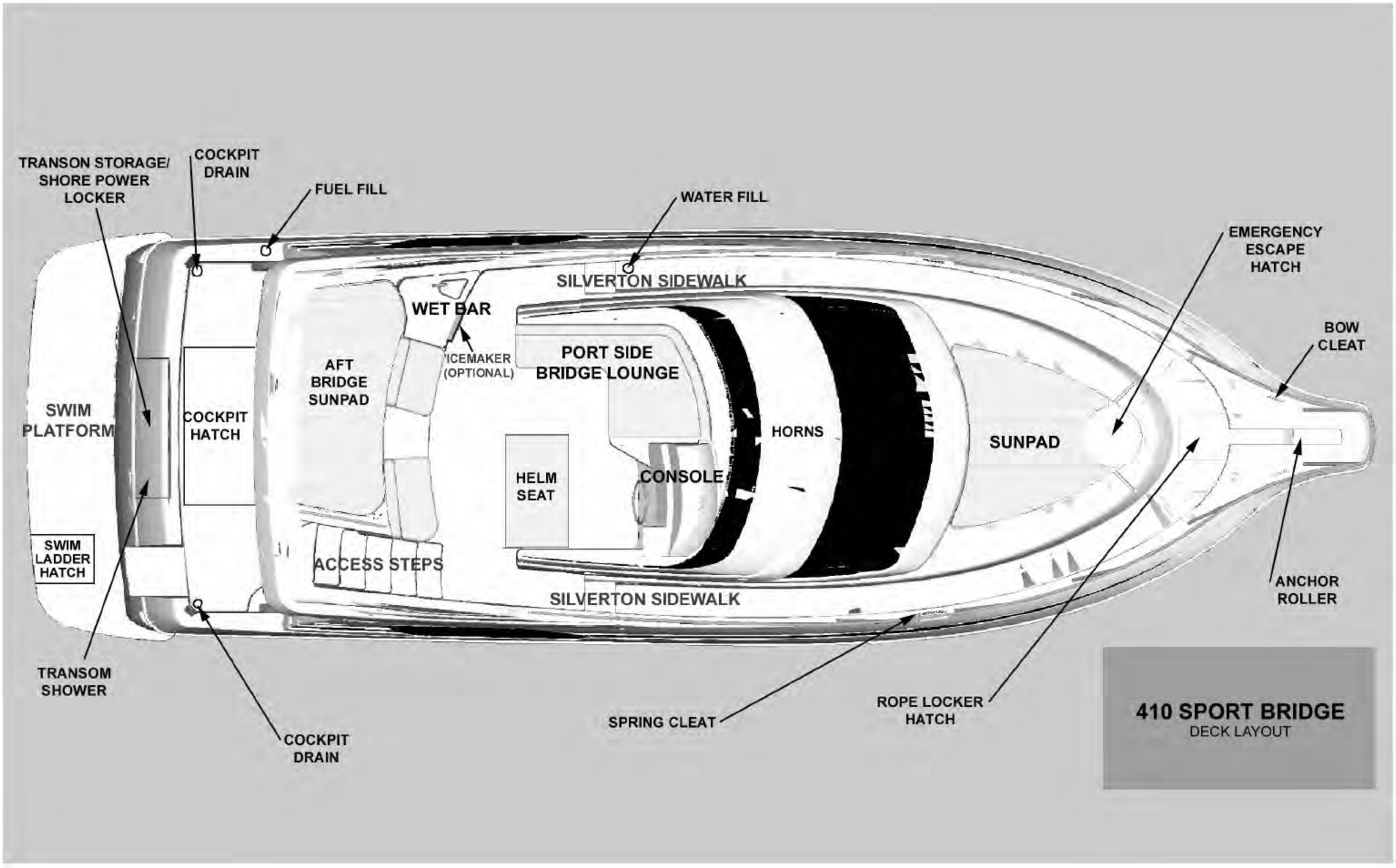
TEL: 609.825.4117 FAX: 609.293.8025

DRAWN BY	JBP	APPROVED BY:	JBP	400 SPORT BRIDGE
SCALE:	NO	DATE:	10/3/99	
DATE	DISTRIBUTION	DATE	REVISIONS	BRIDGE JUMPER DUAL STA.
12/89	REVISED			DWG NO.: E40800270DD
1/00	REVISED			SHEET NO. 1 OF 1



410 SPORT BRIDGE

DECK LAYOUT

PLUG DE NO. 770019 — 1			
1	1	RED	14 MAP LIGHT
2	2	RED	14 DEFOGGER
3	3	RED	14 DEFOGGER
4	4	RED	14 FOOT PEDDAL

ALL PLUGS AND CAPS TO BE AMP MATE N LOCK II CONNECTORS
SILVERTON MARINE PART NO.
003 — 8873

SILVERTON
DESIGN AND ENGINEERING
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DRAWN BY:	JBP	APPROVED BY:	ABP
SCALE:	NO	DATE	5/5/99
DATE	DISTRIBUTION	DATE	REVISIONS

453 PMY
DEFOGGER PANEL
DWG NO: E453DT0990
SHEET NO: 2 OF 2

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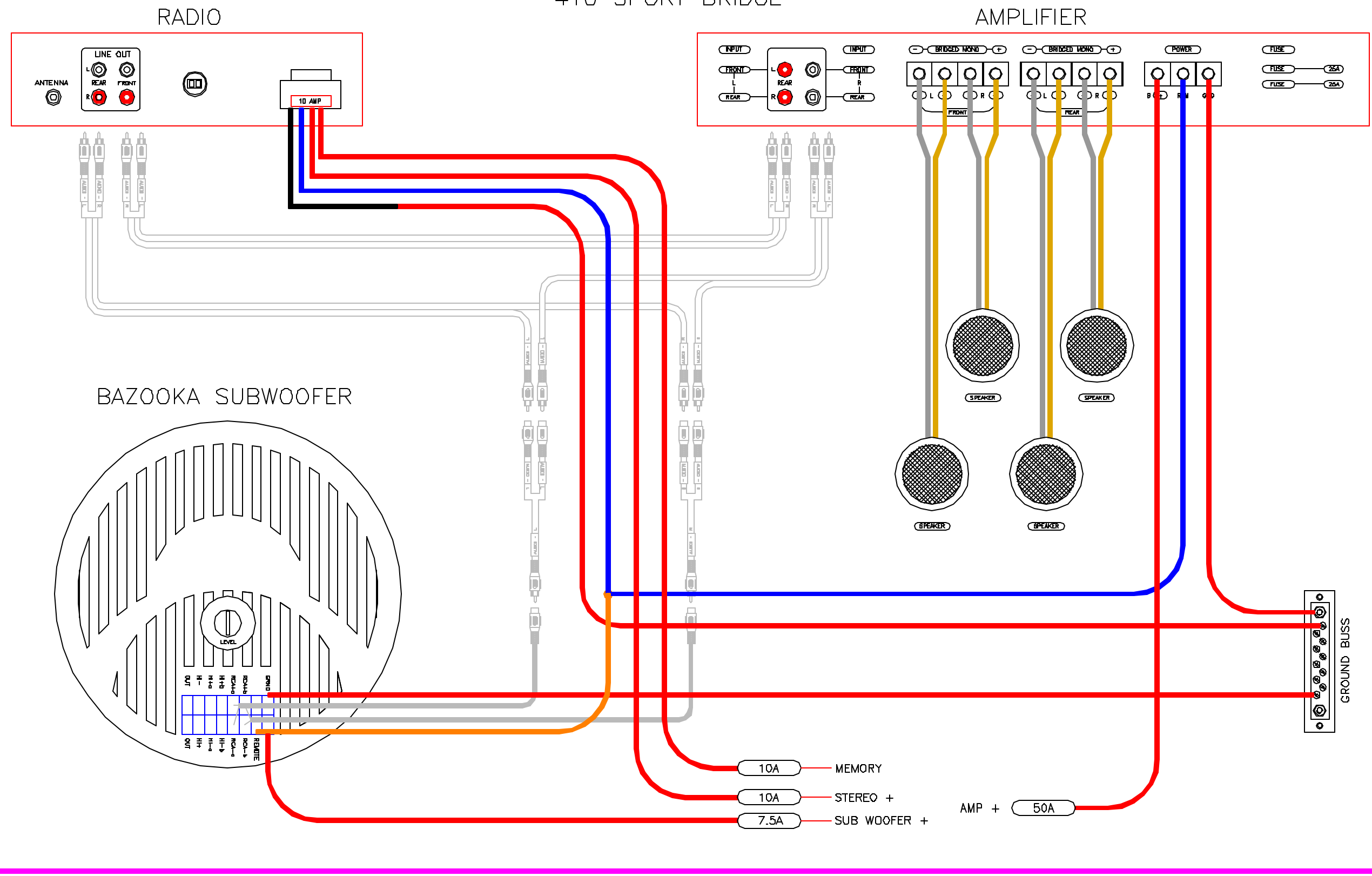
FLYBRIDGE SUPREME SOUND PACKAGE
ELECTRICAL SCHEMATIC
410 SPORT BRIDGE



ALL PLUGS AND CAPS TO BE AMP MATE N LOCK W CONNECTORS
SILVERTON MARINE PART NOS
DASH - CHOSE

PLUG P1 NO. 7700220-1		
1	1	BROWN
2	2	TAN
3	3	WHITE
4	4	PURPLE/RED
5	5	LT. BLUE
6	6	
7	7	
8	8	

PLUG S1 NO. 7700220-1		
1	1	BROWN
2	2	TAN
3	3	BLACK
4	4	PURPLE/GREEN
5	5	LT. BLUE
6	6	
7	7	
8	8	

PLUG T1 NO. 7700219-1		
1	1	YELLOW
2	2	BLACK
3	3	GREEN
4	4	

CAP P NO. 7700228-1		
1	1	BROWN
2	2	TAN
3	3	WHITE
4	4	PURPLE/RED
5	5	LT. BLUE
6	6	
7	7	
8	8	

CAP S NO. 7700228-1		
1	1	BROWN
2	2	TAN
3	3	WHITE
4	4	PURPLE
5	5	YELLOW
6	6	RED/YELLOW
7	7	LT. BLUE
8	8	

9'-0" PIGTAIL

YELLOW - 18
BROWN/WHITE - 18
BROWN/BLACK - 18

P1
S1
T1

YELLOW/RED - 18
PURPLE/GREEN - 14
GREY - 14
TAN - 14
LT. BLUE - 14
BLACK - 18
PURPLE/RED - 18
YELLOW/RED - 18
RED/PURPLE - 18

3-PIN AMP
4-PIN AMP

RED/WHITE - 14
BLACK/WHITE - 14
PINK - 14
VIOLET - 14
YELLOW - 14 (2)
BLUE - 14 (2)

PLUG B2 NO. 7700220-1

1	1	BROWN
2	2	TAN
3	3	GREY/WHT
4	4	BLACK/WHT
5	5	GREEN
6	6	BLACK/WHT
7	7	
8	8	

9	9	TRANSOM LT
10	10	ANCHOR LT
11	11	HORN
12	12	COURTESY
13	13	
14	14	
15	15	
16	16	

PLUG B NO. 7700221-1

1	1	BLUE
2	2	GRAY
3	3	VIOLET
4	4	YELLOW
5	5	BLACK/WHT
6	6	YELLOW
7	7	PINK
8	8	RED/WHITE

9	9	FWD BILGE
10	10	AFT BILGE
11	11	OPEN
12	12	OPEN
13	13	HALON
14	14	GROUND
15	15	FUEL
16	16	MID BILGE
17	17	PARALLEL

REVISED PANEL SHAPE & ADDED STEERING HEAD OUT OUT 5/19/00 JBP

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DATE	DISTRIBUTION	DATE	REVISIONS

410 SPORT BRIDGE
SWITCH PANEL L/S
DWG NO: EA0000400D
SHEET NO.: 2 OF 2

ALL PLUGS AND DAPS TO BE AMP MATE N LOCK II DONNECTORS

SILVERTON MARINE PART NO.
005 - 0014

6'-0" PIGTAIL

YELLOW - 10
ORANGE/WHITE - 10
ORANGE/BLACK - 10

PLUG P1 NO. 770020-1				
1	1	BLACK	14	GROUND
2	2	GREY	14	TACH
3	3	TAN	14	WATER
4	4	PINK	14	FUEL
5	5	PURPLE/RED	14	IGNITION
6	6	LT. BLUE	14	OIL

PLUG S1 NO. 770020-1				
1	1	BLACK	14	GROUND
2	2	GREY	14	TACH
3	3	TAN	14	WATER
4	4	BLUE	14	PANEL LTS.
5	5	PURPLE/GRN	14	IGNITION
6	6	LT BLUE	14	OIL

PLUG TT NO. 770019-1				
1	1	RED	12	TRIM TAB
2	2	YELLOW	12	TRIM TAB
3	3	BLUE	12	TRIM TAB
4	4	GREEN	12	TRIM TAB

P1
S1
TT
TRIM
RED -12
BLUE -12
YELLOW - 12
GREEN - 12

20 AMP
10 AMP
20 AMP
15 AMP
BLOWER
HORN
NAV

GRAY/YELL - 12
GRAY/GRN - 12
GRAY/WHT - 12
GREY - 12
GREEN - 10
BLUE/WHT - 12

PLUG B2 NO. 770020-1				
1	1	GRAY/YELL	12	TRANSOM LT
2	2	GRAY/GRN	12	NAV LT
3	3	GRAY/WHT	12	ANCHOR LT
4	4	GREY	12	BOW LT
5	5	GREEN	10	HORN
6	6	BLUE/WHT	12	COURTLT

15 AMP
15 AMP
15 AMP
15 AMP
15 AMP
15 AMP
5 AMP
PANEL LT
COURT LT
ACC.
ACC.
ACC.
ACC.
PARALLEL

GREY - 14
TAN - 14
LT. BLUE - 14
BLACK - 10
WHITE - 14
PURPLE/RED - 10
YELLOW/RED - 12
RED/PURPLE - 10

GREY - 14
LT. BLUE - 14
BLACK - 10
TAN - 14
WHITE - 14
PURPLE/GREEN - 14

YELLOW/RED - 12
RED/PURPLE - 10

3'-0"
3'-0"
3'-0"
3'-0"

20 AMP
20 AMP

RED/WHITE - 14
YELLOW - 14
BLACK/WHITE - 14
PINK - 14
VIOLET - 14
BLUE - 14 (3)
YELLOW - 14
BLUE - 14 (2)
BLUE - 14 (1)

PLUG B NO. 770021-1				
1	1	BLUE	16	FWD BILGE
2	2	BLUE	16	AFT BILGE
3	3	VIOLET	16	GEN. IND
4	4	YELLOW	14	GROUND
5	5	BLACK/WHT	14	HALON
6	6	YELLOW	14	GROUND
7	7	PINK	14	FUEL
8	8	BLUE	16	MID BILGE
9	9	RED/WHT	14	PARALLEL

CAP P NO. 770028-1				
1	1	BLACK	10	GROUND
2	2	GREY	14	TACH
3	3	TAN	14	WATER
4	4	WHITE	14	ALARM
5	5	PURPLE	10	IGNITION
6	6	RED	10	BATTERY
7	7	YELL/RED	12	STARTER
8	8	LT. BLUE	14	OIL
9	9	-	-	-

CAP S NO. 770028-1				
1	1	BLACK	10	GROUND
2	2	GREY	14	TACH
3	3	TAN	14	WATER
4	4	WHITE	14	ALARM
5	5	PURPLE	10	IGNITION
6	6	RED	10	BATTERY
7	7	YELL/RED	12	STARTER
8	8	LT. BLUE	14	OIL
9	9	-	-	-

HALON

REVISED PANEL SHAPE & ADDED STEERING HEAD CUT OUT 2/17/00 JBP

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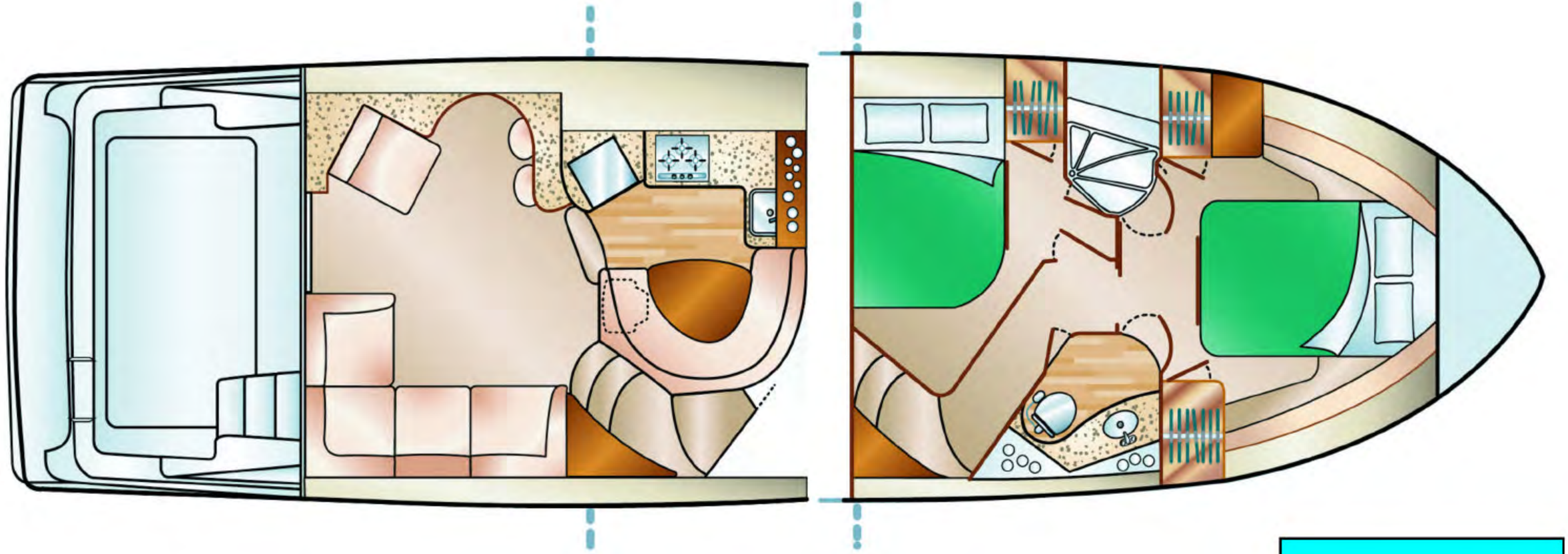
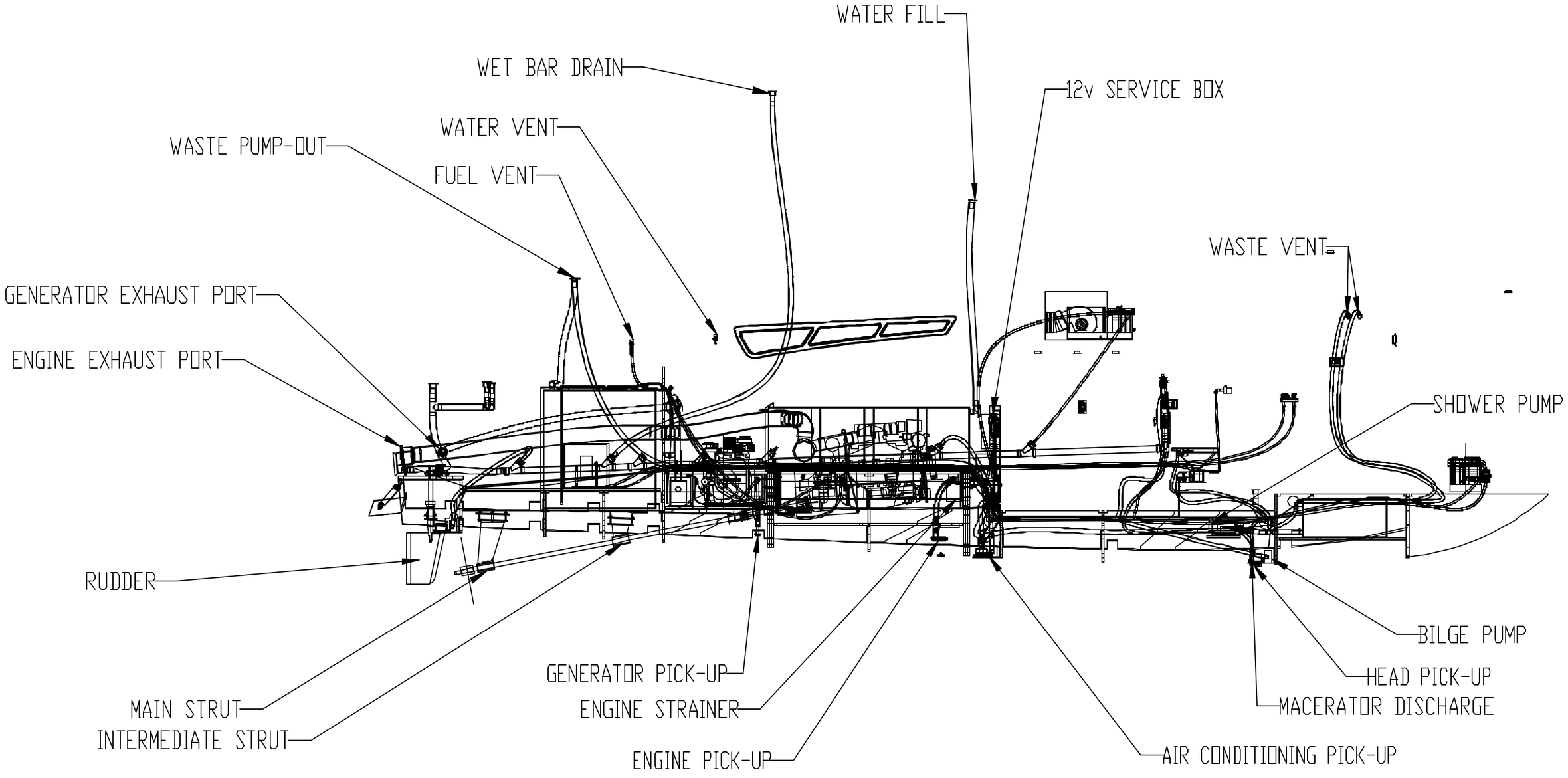
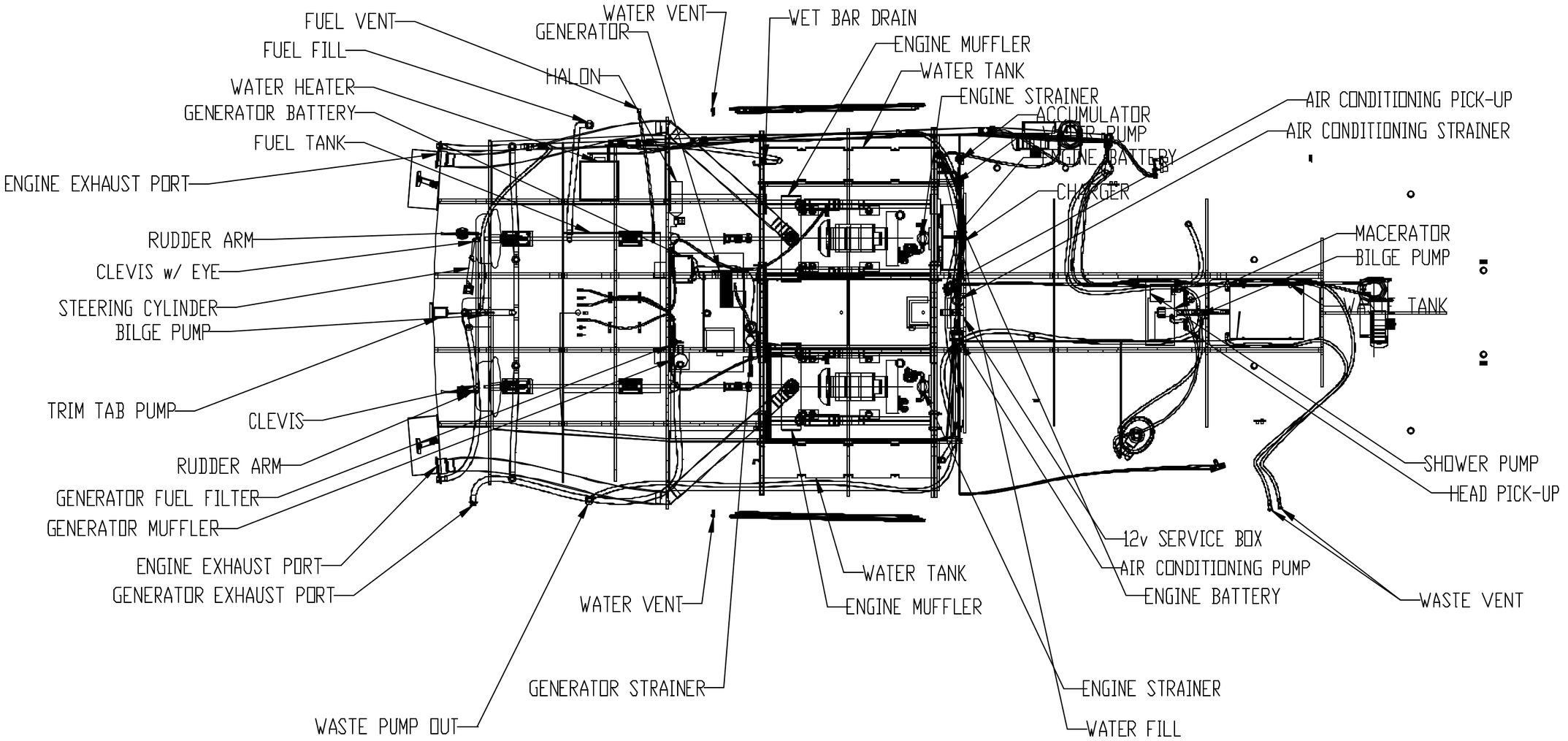
SCALE:	NO	DATE:	7/22/99
DATE	DISTRIBUTION	DATE	REVISIONS

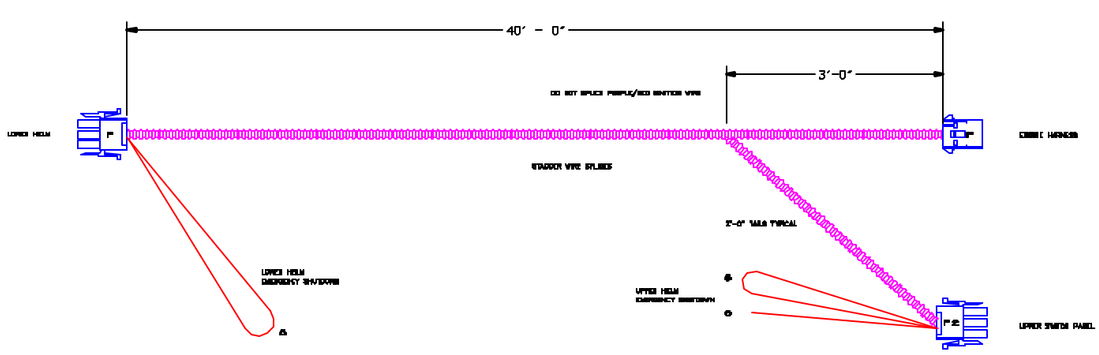
410 SPORT BRIDGE
SWITCH PANEL
DWG NO.. E40S001299D
SHEET NO.. 2 OF 2



410
INTERIOR


WATER FILL
WET BAR DRAIN
12v SERVICE BOX
WATER VENT
WASTE PUMP-OUT
FUEL VENT
WASTE VENT
GENERATOR EXHAUST PORT
ENGINE EXHAUST PORT
SHOWER PUMP
RUDDER
BILGE PUMP
HEAD PICK-UP
GENERATOR PICK-UP
ENGINE STRAINER
MACERATOR DISCHARGE
MAIN STRUT
INTERMEDIATE STRUT
ENGINE PICK-UP
AIR CONDITIONING PICK-UP


FUEL VENT
FUEL FILL
WATER HEATER
GENERATOR BATTERY
FUEL TANK
ENGINE EXHAUST PORT
RUDDER ARM
CLEVIS w/ EYE
STEERING CYLINDER
BILGE PUMP
TRIM TAB PUMP
CLEVIS
RUDDER ARM
GENERATOR FUEL FILTER
GENERATOR MUFFLER
ENGINE EXHAUST PORT
GENERATOR EXHAUST PORT
WASTE PUMP OUT
WATER VENT
GENERATOR
HALON
WATER VENT
WET BAR DRAIN
ENGINE MUFFLER
WATER TANK
ENGINE STRAINER
ACCUMULATOR
AIR CONDITIONING PICK-UP
AIR CONDITIONING STRAINER
CHARGER
MACERATOR
BILGE PUMP
SHOWER PUMP
HEAD PICK-UP
12v SERVICE BOX
AIR CONDITIONING PUMP
ENGINE BATTERY
WASTE VENT
WATER TANK
ENGINE MUFFLER
GENERATOR STRAINER
ENGINE STRAINER
WATER FILL



CAP P NO. 770028-1				
1	1	BLACK	10	GROUND
2	2	GREY	14	TACH
3	3	TAN	14	WATER TEMP
4	4	LT.BLUE/TAN	14	ALARM
5	10	PURPLE/RED	14	IGNITION
6	6	RED/PURP.	10	BATTERY
7	7	YELL/RED	12	STARTER
8	8	LT. BLUE	14	OIL PRESS.
9	9	—	—	—

PLUG P NO. 770021-1				
1	1	BLACK	10	GROUND
2	2	GREY	14	TACH
3	3	TAN	14	WATER TEMP
4	4	LT.BLUE/TAN	14	ALARM
5	10	PURPLE/RED	14	IGNITION
6	6	RED/PURPLE	10	BATTERY
7	7	YELL/RED	12	STARTER
8	8	LT. BLUE	14	OIL PRESS.
9	9	—	—	—

PLUG P2 NO. 770021-1				
1	1	BLACK	10	GROUND
2	2	GREY	14	TACH
3	3	TAN	14	WATER TEMP
4	4	LT. BLUE/TAN	14	ALARM
5	10	PURPLE/RED	14	IGNITION
6	6	RED/PURPLE	10	BATTERY
7	7	YELL/RED	12	STARTER
8	8	LT. BLUE	14	OIL PRESS
9	9	—	—	—

AMP MATE N LOCK II CONNECTORS

SILVERTON MARINE PART NO.

008 — 0021

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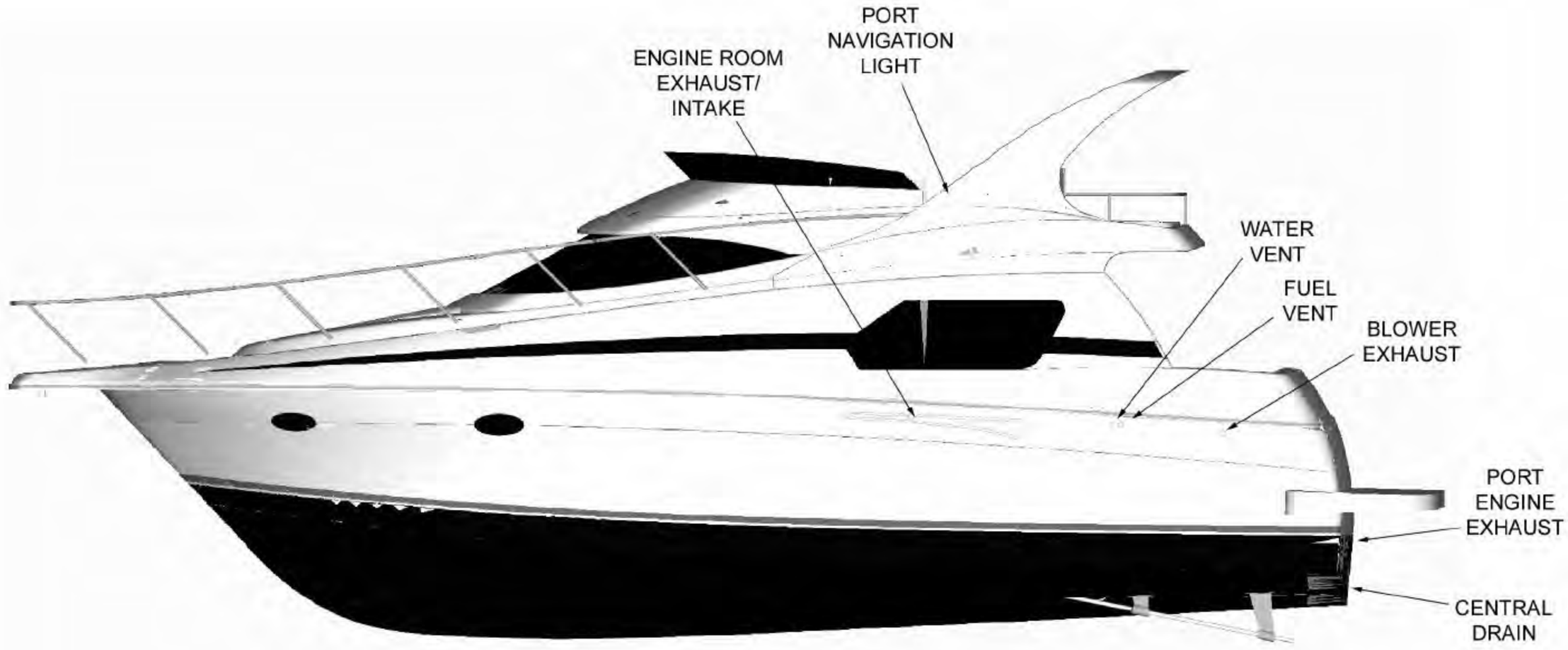
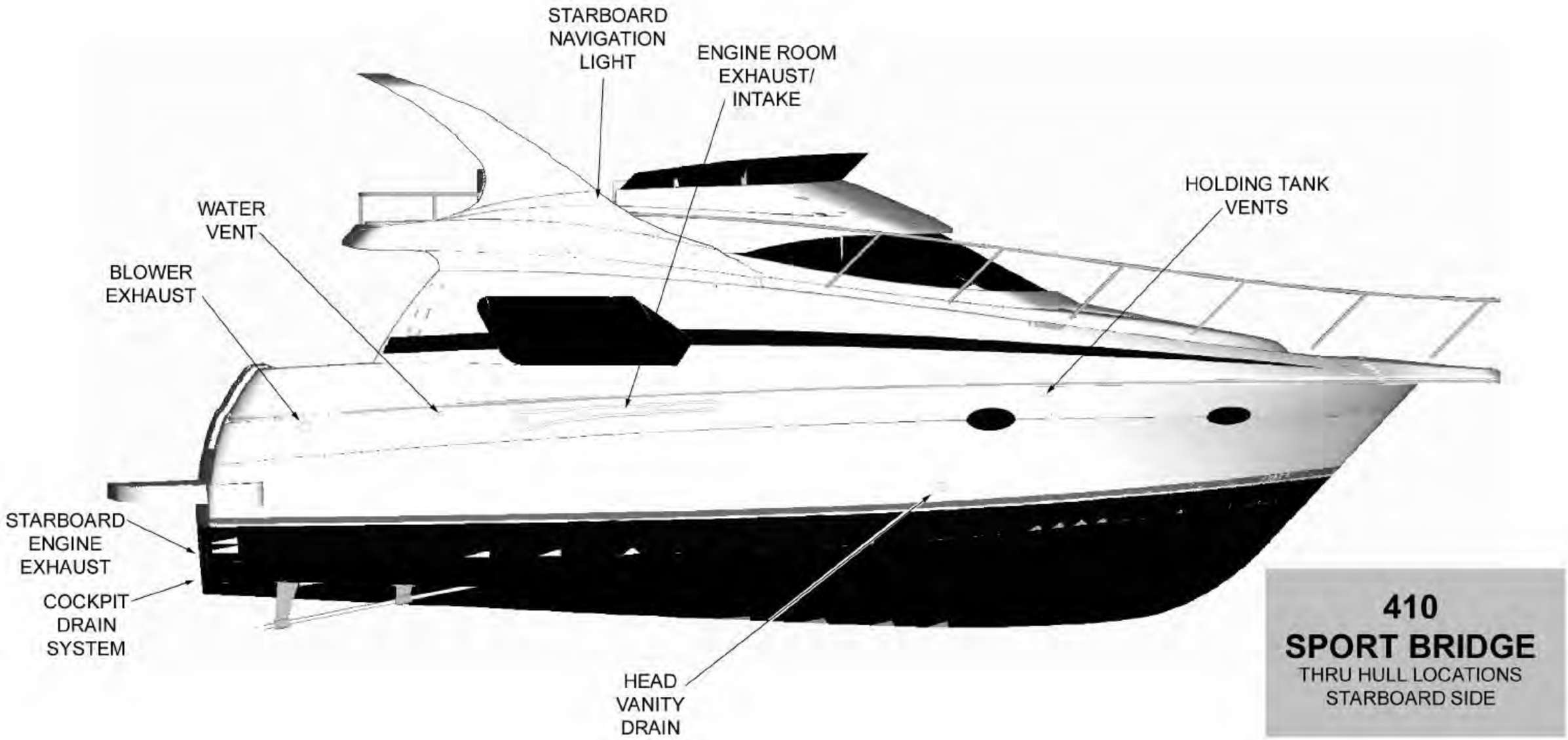
DRAWN BY: JBP		APPROVED BY: JBP	410 PMY
SCALE: NO		DATE: 6/25/00	PORT L/S ENGINE HARNESS
DATE	DISTRIBUTION	DATE	REVISIONS
			DWG NO.: E40800290DD
			SHEET NO.: 1 OF 1

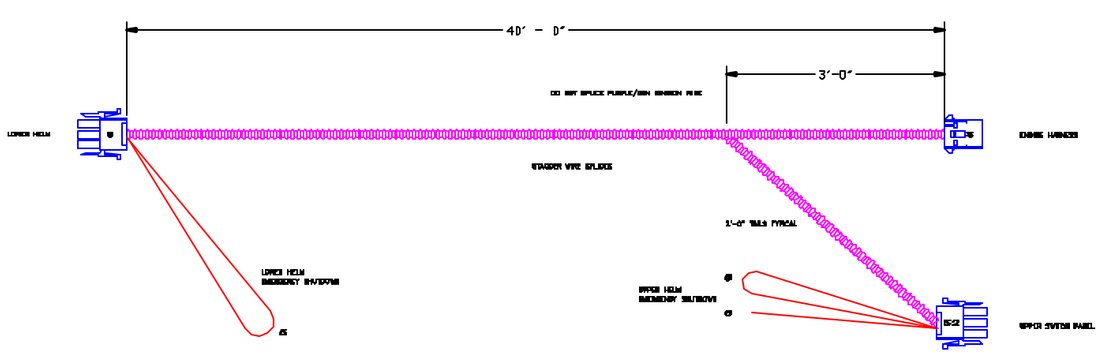


410
SPORT BRIDGE
THRU HULL LOCATIONS
PORT SIDE



410
SPORT BRIDGE

THRU HULL LOCATIONS
STARBOARD SIDE



PLUG S NO. 770021-1				
1	1	BLACK	10	GROUND
2	2	GREY	14	TACH
3	3	TAN	14	WATER TEMP
4	4	LT.BLUE/TAN	14	ALARM
5	10	PURPLE/GRN	14	IGNITION
6	6	RED/PURPLE	10	BATTERY
7	7	YELL/RED	12	STARTER
8	8	LT. BLUE	14	OIL PRESS.
9	9	—	—	—

CAP S NO. 770028-1				
1	1	BLACK	10	GROUND
2	2	GREY	14	TACH
3	3	TAN	14	WATER TEMP
4	4	LT.BLUE/TAN	14	ALARM
5	10	PURPLE/GRN	14	IGNITION
6	6	RED/PURP.	10	BATTERY
7	7	YELL/RED	12	STARTER
8	8	LT. BLUE	14	OIL PRESS.
9	9	—	—	—

PLUG S2 NO. 770021-1				
1	1	BLACK	10	GROUND
2	2	GREY	14	TACH
3	3	TAN	14	WATER TEMP
4	4	LT. BLUE/TAN	14	ALARM
5	10	PURPLE/GRN	14	IGNITION
6	6	RED/PURPLE	10	BATTERY
7	7	YELL/RED	12	STARTER
8	8	LT. BLUE	14	OIL PRESS.
9	9	—	—	—

AMP MATE N LOCK II CONNECTORS

SILVERTON MARINE PART NO.

005 - 0022

SILVERTON Marine Corporation
DESIGN AND ENGINEERING
301 RIVERSIDE DRIVE, MILLVILLE, NEW JERSEY 08332
TEL: 609.825.4117 FAX: 609.293.8025

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SCALE:	NO	DATE:	8/25/00	STBD L/S ENGINE HARNESS
DATE	DISTRIBUTION	DATE	REVISIONS	DWG NO.: E40800280OD
				SHEET NO.: 1 OF 1

ALL PUMPS AND GAPS TO BE AMP MATE N LOCK II CONNECTORS
SILVERTON MARINE PART NO
GAP - 6613

GAP S NO. 770027-1

1	14	BLACK
2	14	GRAY
3	14	TAN
4	14	PURPLE/RED
5	14	LT. BLUE
6	14	BLUE
7	14	PURPLE/GRN
8	14	WHITE
9	14	BLACK/WHITE
10	14	TAN/WHITE
11	14	GRAY/WHITE
12	14	LT. BLUE/WHITE
13	14	BLUE/WHITE
14	14	PURPLE/GRN/WHITE
15	14	GROUND
16	14	IGNITION

GAP P NO. 770027-1

1	14	BLACK
2	14	GRAY
3	14	TAN
4	14	PURPLE/RED
5	14	WHITE
6	14	GROUND
7	14	IGNITION
8	14	BLK

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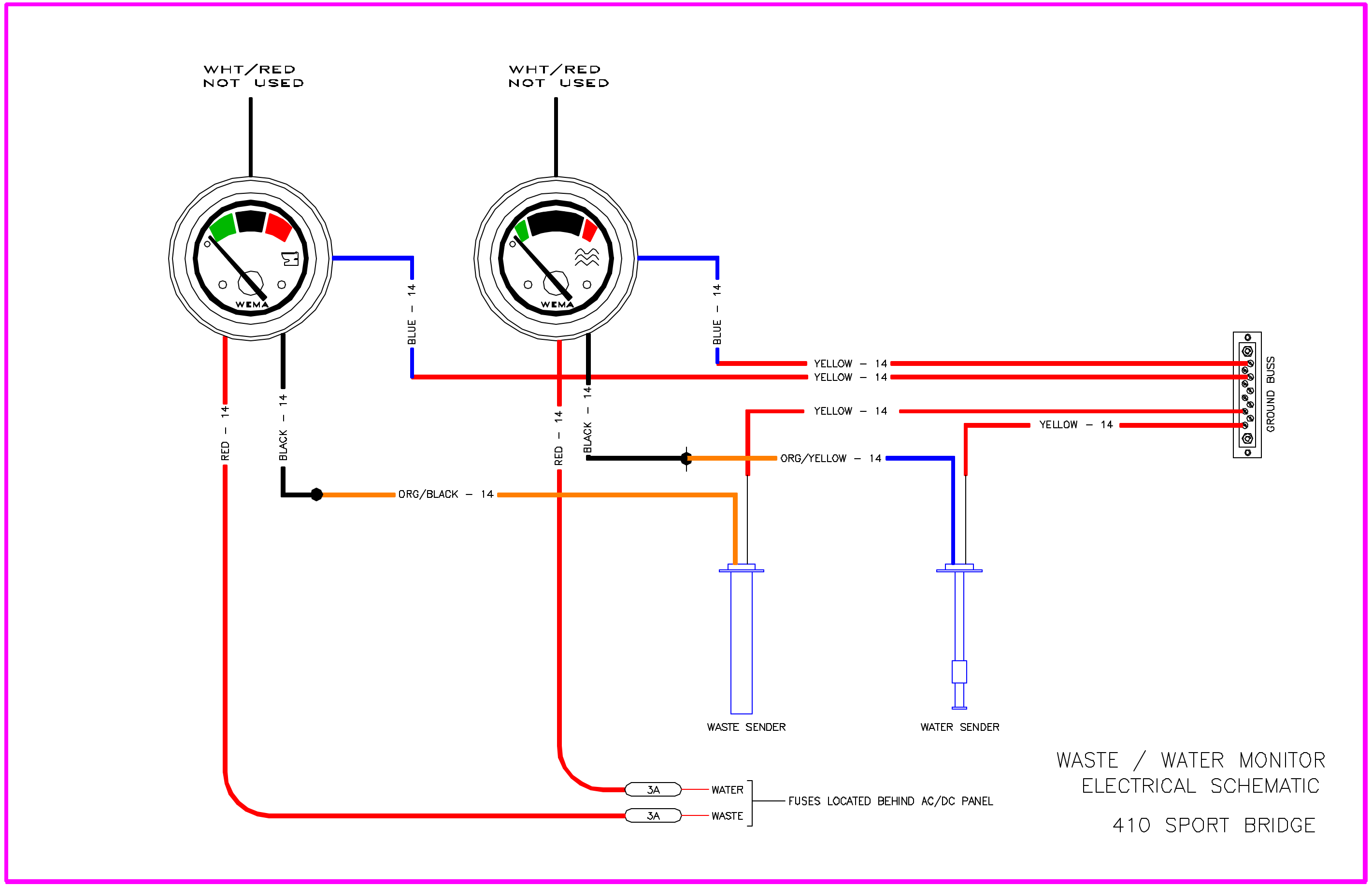
DATE	DISTRIBUTION	DATE	REVISIONS

410 SPORT BRIDGE

UPPER GAUGE PANEL

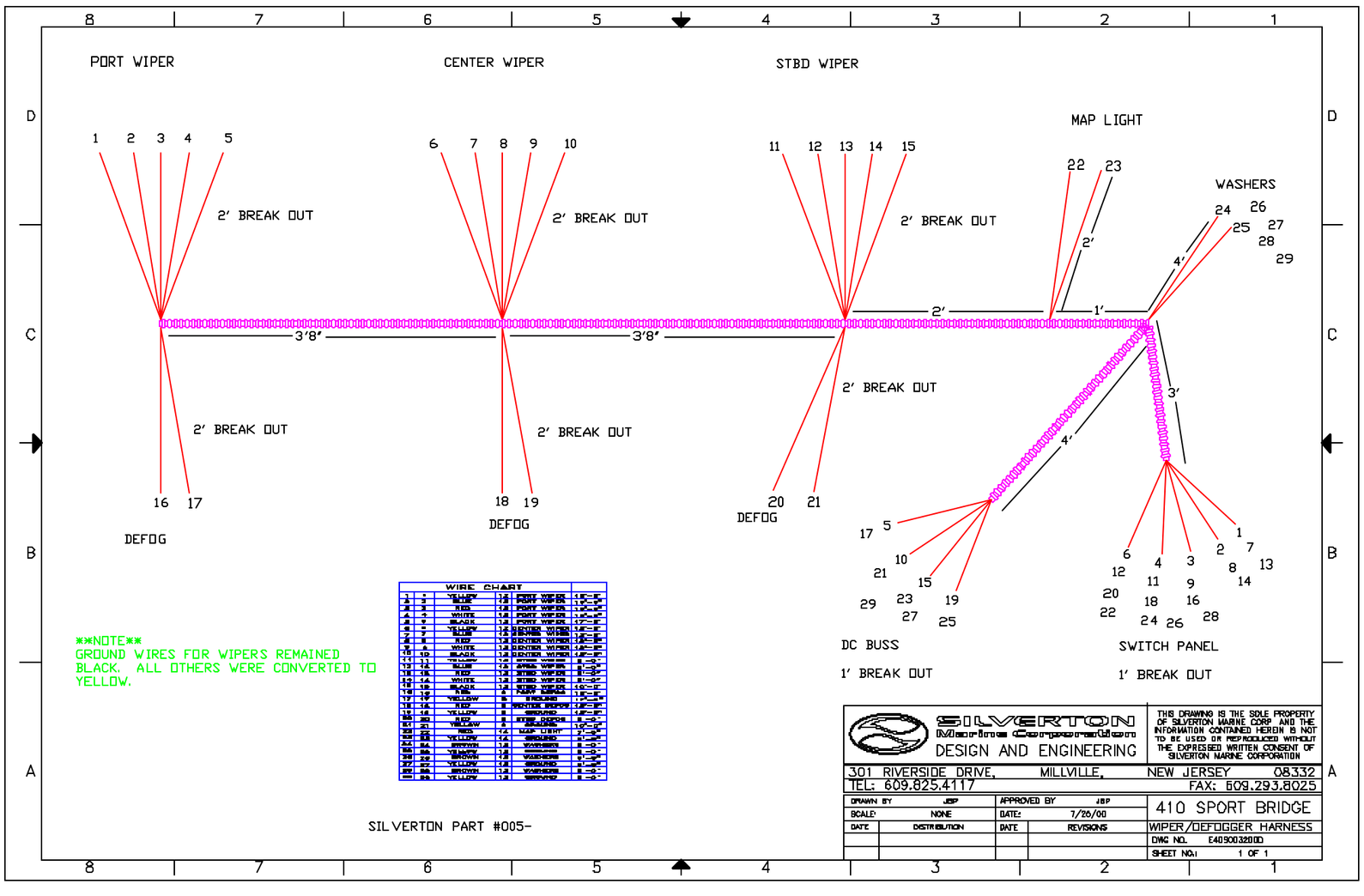
DWG NO.: E40SBDU.SLD

SHEET NO: 2 OF 2



WASTE / WATER MONITOR ELECTRICAL SCHEMATIC

410 SPORT BRIDGE


PORT WIPER
CENTER WIPER
STBD WIPER
MAP LIGHT
WASHERS
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
22 23
24 26 25 27 28 29
2′ BREAK OUT
2′ BREAK OUT
2′ BREAK OUT
2′
1′
4′
3′8″
3′8″
2′
2′ BREAK OUT
2′ BREAK OUT
2′ BREAK OUT
3′
4′
16 17
18 19
20 21
DEFOG
DEFOG
DEFOG
17 5 10 21 15 29 23 27 19 25
1 7 2 13 8 14 6 12 4 11 3 9 20 18 16 22 24 26 28
DC BUSS
1′ BREAK OUT
SWITCH PANEL
1′ BREAK OUT
NOTE
GROUND WIRES FOR WIPERS REMAINED BLACK. ALL OTHERS WERE CONVERTED TO YELLOW.
WIRE CHART
SILVERTON PART #005-
SILVERTON Marine Corporation
DESIGN AND ENGINEERING
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TEL: 609.825.4117 FAX: 609.293.8025
DRAWN BY JBP
APPROVED BY JBP
SCALE: NONE
DATE: 7/26/00
DATE DISTRIBUTION
DATE REVISIONS
410 SPORT BRIDGE
WIPER/DEFOGGER HARNESS
DWG NO. E4090032000
SHEET NO.1 1 OF 1